SEQUENCE LISTING

<110> Friedman, Jeffrey M.

Lee, Gwo-Hua

Proenca, Ricardo

Ioffe, Ella

<120> DB, THE RECEPTOR FOR LEPTIN, NUCLEIC ACIDS ENCODING THE RECEPTOR, AND USES THEREOF

<130> 600-1-162CP2

<140> US 08/783,734

<141> 1997-01-16

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<150> US 08/599,974

<151> 1996-02-14

<150> US 08/586,594

<151> 1996-01-16

<160> 126

<170> PatentIn version 3.1

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Ala Leu Thr Asp Asn Thr Glu Gly Lys Thr Leu Ala Ser Val Val Lys
    50                  55                  60
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Met Lys Gly Asp Leu Thr Leu Phe Ile Cys His Met Glu Pro Leu Pro
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Lys Asn Pro Phe Lys Asn Tyr Asp Ser Lys Val His Leu Leu Tyr Asp
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Leu Pro Glu Val Ile Asp Asp Ser Pro Leu Pro Pro Leu Lys Asp Ser
        115                 120                 125

Phe Gln Thr Val Gln Cys Asn Cys Ser Leu Arg Gly Cys Glu Cys His
    130                 135                 140

Val Pro Val Pro Arg Ala Lys Leu Asn Tyr Ala Leu Leu Met Tyr Leu
145                 150                 155                 160

Glu Ile Thr Ser Ala Gly Val Ser Phe Gln Ser Pro Leu Met Ser Leu
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Gln Pro Met Leu Val Val Lys Pro Asp Pro Pro Leu Gly Leu His Met
            180                 185                 190

Glu Val Thr Asp Asp Gly Asn Leu Lys Ile Ser Trp Asp Ser Gln Thr
        195                 200                 205

Met Ala Pro Phe Pro Leu Gln Tyr Gln Val Lys Tyr Leu Glu Asn Ser
    210                 215                 220

Thr Ile Val Arg Glu Ala Ala Glu Ile Val Ser Ala Thr Ser Leu Leu
225                 230                 235                 240

Val Asp Ser Val Leu Pro Gly Ser Ser Tyr Glu Val Gln Val Arg Ser
                245                 250                 255

Lys Arg Leu Asp Gly Ser Gly Val Trp Ser Asp Trp Ser Ser Pro Gln
            260                 265                 270

Val Phe Thr Thr Gln Asp Val Val Tyr Phe Pro Pro Lys Ile Leu Thr
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Ser Val Gly Ser Asn Ala Ser Phe His Cys Ile Tyr Lys Asn Glu Asn
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325 330 335

Val Thr Phe Ser Asn Leu Lys Ala Thr Arg Pro Arg Gly Lys Phe Thr
340 345 350

Tyr Asp Ala Val Tyr Cys Cys Asn Glu Gln Ala Cys His His Arg Tyr
355 360 365

Ala Glu Leu Tyr Val Ile Asp Val Asn Ile Asn Ile Ser Cys Glu Thr
370 375 380

Asp Gly Tyr Leu Thr Lys Met Thr Cys Arg Trp Ser Pro Ser Thr Ile
385 390 395 400

Gln Ser Leu Val Gly Ser Thr Val Gln Leu Arg Tyr His Arg Arg Ser
405 410 415

71 Leu Tyr Cys Pro Asp Ser Pro Ser Ile His Pro Thr Ser Glu Pro Lys
420 425 430

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Ile Phe Leu Leu Ser Gly Tyr Thr Met Trp Ile Arg Ile Asn His Ser
450 455 460

Leu Gly Ser Leu Asp Ser Pro Pro Thr Cys Val Leu Pro Asp Ser Val
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Val Lys Pro Leu Pro Pro Ser Asn Val Lys Ala Glu Ile Thr Val Asn
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580 585 590

Arg Lys Met Asp Gly Asp Val Thr Lys Lys Glu Arg Asn Val Thr Leu
595 600 605

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Val Gly Asn Arg Thr Asn Leu Thr Phe Leu Trp Thr Glu Pro Ala His
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675 680 685

Ser Leu Ser Ala Tyr Pro Leu Ser Ser Ser Cys Val Ile Leu Ser Trp
690 695 700

Thr Leu Ser Pro Asp Asp Tyr Ser Leu Leu Tyr Leu Val Ile Glu Trp
705 710 715 720

Lys Ile Leu Asn Glu Asp Asp Gly Met Lys Trp Leu Arg Ile Pro Ser
725 730 735

Asn Val Lys Lys Phe Tyr Ile His Asp Asn Phe Ile Pro Ile Glu Lys
740 745 750

Tyr Gln Phe Ser Leu Tyr Pro Val Phe Met Glu Gly Val Gly Lys Pro
755 760 765

Lys Ile Ile Asn Gly Phe Thr Lys Asp Ala Ile Asp Lys Gln Gln Asn
770 775 780

Asp Ala Gly Leu Tyr Val Ile Val Pro Ile Ile Ile Ser Ser Cys Val

785 790 795 800

Leu Leu Leu Gly Thr Leu Leu Ile Ser His Gln Arg Met Lys Lys Leu
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Tyr Ile Ser Thr Leu Ser Leu Phe Pro Ser Ala Leu Ala Leu Asp Trp
35 40 45

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Ala Val Pro Gly Leu Val Leu Leu Phe Pro Gly Gly Asn Val Glu Leu
    50                  55                  60

His Glu Phe Trp Tyr Lys His Cys Gly Leu Cys Ala Asn Ile Xaa Cys
65                  70                  75                  80

Phe Leu Gln Pro Leu Thr Lys Asn Asp Ser Leu Cys Ser Val Arg Arg
                85                  90                  95

Tyr Val Val Lys His Arg Thr Ala His Asn Gly Thr Trp Ser Glu Asp
            100                 105                 110

Val Gly Asn Arg Thr Asn Leu Thr Phe Leu Trp Thr Glu Pro Ala His
        115                 120                 125

Thr Val Thr Val Leu Ala Val Asn Ser Leu Gly Ala Ser Leu Val Asn
    130                 135                 140

Phe Asn Leu Thr Phe Ser Trp Pro Met Ser Lys Val Ser Ala Val Glu
145                 150                 155                 160

Ser Leu Ser Ala Tyr Pro Leu Ser Ser Ser Cys Val Ile Leu Ser Trp
                165                 170                 175

Thr Leu Ser Pro Asp Asp Tyr Ser Leu Leu Tyr Leu Val Ile Glu Trp
            180                 185                 190

Lys Ile Leu Asn Glu Asp Asp Gly Met Lys Trp Leu Arg Ile Pro Ser
        195                 200                 205

Asn Val Lys Lys Phe Tyr Ile His Asp Asn Phe Ile Pro Ile Glu Lys
    210                 215                 220

Tyr Gln Phe Ser Leu Tyr Pro Val Phe Met Glu Gly Val Gly Lys Pro
225                 230                 235                 240

Lys Ile Ile Asn Gly Phe Thr Lys Asp Ala Ile Asp Lys Gln Gln Asn
                245                 250                 255

Asp Ala Gly Leu Tyr Val Ile Val Pro Ile Ile Ile Ser Ser Cys Val
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Leu Leu Leu Gly Thr Leu Leu Ile Ser His Gln Arg Met Lys Lys Leu
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Ala Glu Ser Val Ile Phe Gly Pro Leu Leu Leu Glu Pro Glu Pro Ile
                325                 330                 335

Ser Glu Glu Ile Ser Val Asp Thr Ala Trp Lys Asn Lys Asp Glu Met
            340                 345                 350

Val Pro Ala Ala Met Val Ser Leu Leu Leu Thr Thr Pro Asp Pro Glu
        355                 360                 365

Ser Ser Ser Ile Cys Ile Ser Asp Gln Cys Asn Ser Ala Asn Phe Ser
    370                 375                 380

Gly Ser Gln Ser Thr Gln Val Thr Cys Glu Asp Glu Cys Gln Arg Gln
385                 390                 395                 400

Pro Ser Val Lys Tyr Ala Thr Leu Val Ser Asn Asp Lys Leu Val Glu
                405                 410                 415

Thr Asp Glu Glu Gln Gly Phe Ile His Ser Pro Val Ser Asn Cys Ile
            420                 425                 430

Ser Ser Asn His Ser Pro Leu Arg Gln Ser Phe Ser Ser Ser Ser Trp
        435                 440                 445

Glu Thr Glu Ala Gln Thr Phe Phe Leu Leu Ser Asp Gln Gln Pro Thr
    450                 455                 460

Met Ile Ser Pro Gln Leu Ser Phe Ser Gly Leu Asp Glu Leu Leu Glu
465                 470                 475                 480

Leu Glu Gly Ser Phe Pro Glu Glu Asn His Arg Glu Lys Ser Val Cys
                485                 490                 495

Tyr Leu Gly Val Thr Ser Val Asn Arg Arg Glu Ser Gly Val Leu Leu
            500                 505                 510

Thr Gly Glu Ala Gly Ile Leu Cys Thr Phe Pro Ala Gln Cys Leu Phe
        515                 520                 525
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Ser Asp Ile Arg Ile Leu Gln Glu Arg Cys Ser His Phe Val Glu Asn
530 535 540

Asn Leu Ser Leu Gly Thr Ser Gly Glu Asn Phe Val Pro Tyr Met Pro
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            20                  25                  30

Thr Ala Phe Tyr Ile Ser Thr Leu Ser Leu Phe Pro Ser Ala Leu Ala
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35 40 45

Leu Asp Trp Ala Val Pro Gly Leu Val Xaa Leu Leu Phe Pro Gly Gly
50 55 60

Asn Val Xaa Xaa Glu Leu His Glu Phe Trp Tyr Lys His Cys Gly Leu
65 70 75 80

Cys Ala Asn Xaa Ile Xaa Cys Phe Leu Gln Pro Leu Thr Lys Asn Asp
85 90 95

Ser Leu Cys Ser Val Arg Arg Tyr Val Val Lys His Arg Thr Ala His
100 105 110

Asn Gly Thr Trp Ser Glu Asp Val Gly Asn Arg Thr Asn Leu Thr Phe
115 120 125

Leu Trp Thr Glu Pro Ala His Thr Val Thr Val Leu Ala Val Asn Ser
130 135 140

Leu Gly Ala Ser Leu Val Asn Phe Asn Leu Thr Phe Ser Trp Pro Met
145 150 155 160

71

Ser Lys Val Ser Ala Val Glu Ser Leu Ser Ala Tyr Pro Leu Ser Ser
165 170 175

Ser Cys Val Ile Leu Ser Trp Thr Leu Ser Pro Asp Asp Tyr Ser Leu
180 185 190

Leu Tyr Leu Val Ile Glu Trp Lys Ile Leu Asn Glu Asp Asp Gly Met
195 200 205

Lys Trp Leu Arg Ile Pro Ser Asn Val Lys Lys Phe Tyr Ile His Asp
210 215 220

Asn Phe Ile Pro Ile Glu Lys Tyr Gln Phe Ser Leu Tyr Pro Val Phe
225 230 235 240

Met Glu Gly Val Gly Lys Pro Lys Ile Ile Asn Gly Phe Thr Lys Asp
245 250 255

Ala Ile Asp Lys Gln Gln Asn Asp Ala Gly Leu Tyr Val Ile Val Pro
260 265 270

Ile Ile Ile Ser Ser Cys Val Leu Leu Leu Gly Thr Leu Leu Ile Ser
275 280 285

His Gln Arg Met Lys Lys Leu Phe Trp Asp Asp Val Pro Asn Pro Lys
290 295 300

Asn Cys Ser Trp Ala Gln Gly Leu Asn Phe Gln Lys Val Thr Val
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<211> 2703

<212> DNA

<213> Mus musculus

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aacacaaccg atgactcctt tctctcacct gctggagccc caaacaatgc ctcggctttg 180

aaggggggctt ctgaagcaat tgttgaagct aaatttaatt caagtggtat ctacgttcct 240

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gcactcacag acaacactga agggaagaca ctggcttcag tagtgaaggc ttcagttttt 360

cgccagctag gtgtaaactg ggacatagag tgctggatga aaggggactt gacattattc 420

atctgtcata tggagccatt acctaagaac cccttcaaga attatgactc taaggtccat 480

cttttatatg atctgcctga agtcatagat gattcgcctc tgcccccact gaaagacagc 540

tttcagactg tccaatgcaa ctgcagtctt cggggatgtg aatgtcatgt gccggtaccc 600

agagccaaac tcaactacgc tcttctgatg tatttggaaa tcacatctgc cggtgtgagt 660

tttcagtcac ctctgatgtc actgcagccc atgcttgttg tgaaacccga tccaccctta 720

ggtttgcata tggaagtcac agatgatggt aatttaaaga tttcttggga cagccaaaca 780

atggcaccat ttccgcttca atatcaggtg aaatatttag agaattctac aattgtaaga 840

gaggctgctg aaattgtctc agctacatct ctgctggtag acagtgtgct tcctggatct 900

tcatatgagg tccaggtgag gagcaagaga ctggatggtt caggagtctg gagtgactgg 960

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<212> PRT

<213> Mus musculus

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Phe Lys Leu Phe Cys Gly Pro Pro Asn Thr Thr Asp Asp Ser Phe Leu
35 40 45

Ser Pro Ala Gly Ala Pro Asn Asn Ala Ser Ala Leu Lys Gly Ala Ser
50 55 60

Glu Ala Ile Val Glu Ala Lys Phe Asn Ser Ser Gly Ile Tyr Val Pro
65 70 75 80

Glu Leu Ser Lys Thr Val Phe His Cys Cys Phe Gly Asn Glu Gln Gly
85 90 95

Gln Asn Cys Ser Ala Leu Thr Asp Asn Thr Glu Gly Lys Thr Leu Ala
100 105 110

71

Ser Val Val Lys Ala Ser Val Phe Arg Gln Leu Gly Val Asn Trp Asp
115 120 125

Ile Glu Cys Trp Met Lys Gly Asp Leu Thr Leu Phe Ile Cys His Met
130 135 140

Glu Pro Leu Pro Lys Asn Pro Phe Lys Asn Tyr Asp Ser Lys Val His
145 150 155 160

Leu Leu Tyr Asp Leu Pro Glu Val Ile Asp Asp Ser Pro Leu Pro Pro
165 170 175

Leu Lys Asp Ser Phe Gln Thr Val Gln Cys Asn Cys Ser Leu Arg Gly
180 185 190

Cys Glu Cys His Val Pro Val Pro Arg Ala Lys Leu Asn Tyr Ala Leu
195 200 205

Leu Met Tyr Leu Glu Ile Thr Ser Ala Gly Val Ser Phe Gln Ser Pro
210 215 220

Leu Met Ser Leu Gln Pro Met Leu Val Val Lys Pro Asp Pro Pro Leu

225 230 235 240

Gly Leu His Met Glu Val Thr Asp Asp Gly Asn Leu Lys Ile Ser Trp
245 250 255

Asp Ser Gln Thr Met Ala Pro Phe Pro Leu Gln Tyr Gln Val Lys Tyr
260 265 270

Leu Glu Asn Ser Thr Ile Val Arg Glu Ala Ala Glu Ile Val Ser Ala
275 280 285

Thr Ser Leu Leu Val Asp Ser Val Leu Pro Gly Ser Ser Tyr Glu Val
290 295 300

Gln Val Arg Ser Lys Arg Leu Asp Gly Ser Gly Val Trp Ser Asp Trp
305 310 315 320

Ser Ser Pro Gln Val Phe Thr Thr Gln Asp Val Val Tyr Phe Pro Pro
325 330 335

Lys Ile Leu Thr Ser Val Gly Ser Asn Ala Ser Phe His Cys Ile Tyr
340 345 350

71

Lys Asn Glu Asn Gln Ile Ile Ser Ser Lys Gln Ile Val Trp Trp Arg
355 360 365

Asn Leu Ala Glu Lys Ile Pro Glu Ile Gln Tyr Ser Ile Val Ser Asp
370 375 380

Arg Val Ser Lys Val Thr Phe Ser Asn Leu Lys Ala Thr Arg Pro Arg
385 390 395 400

Gly Lys Phe Thr Tyr Asp Ala Val Tyr Cys Cys Asn Glu Gln Ala Cys
405 410 415

His His Arg Tyr Ala Glu Leu Tyr Val Ile Asp Val Asn Ile Asn Ile
420 425 430

Ser Cys Glu Thr Asp Gly Tyr Leu Thr Lys Met Thr Cys Arg Trp Ser
435 440 445

Pro Ser Thr Ile Gln Ser Leu Val Gly Ser Thr Val Gln Leu Arg Tyr
450 455 460

His Arg Arg Ser Leu Tyr Cys Pro Asp Ser Pro Ser Ile His Pro Thr
465 470 475 480

Ser Glu Pro Lys Asn Cys Val Leu Gln Arg Asp Gly Phe Tyr Glu Cys
485 490 495

Val Phe Gln Pro Ile Phe Leu Leu Ser Gly Tyr Thr Met Trp Ile Arg
500 505 510

Ile Asn His Ser Leu Gly Ser Leu Asp Ser Pro Pro Thr Cys Val Leu
515 520 525

Pro Asp Ser Val Val Lys Pro Leu Pro Pro Ser Asn Val Lys Ala Glu
530 535 540

Ile Thr Val Asn Thr Gly Leu Leu Lys Val Ser Trp Glu Lys Pro Val
545 550 555 560

Phe Pro Glu Asn Asn Leu Gln Phe Gln Ile Arg Tyr Gly Leu Ser Gly
565 570 575

Lys Glu Ile Gln Trp Lys Thr His Glu Val Phe Asp Ala Lys Ser Lys
580 585 590

71 Ser Ala Ser Leu Leu Val Ser Asp Leu Cys Ala Val Tyr Val Val Gln
595 600 605

Val Arg Cys Arg Arg Leu Asp Gly Leu Gly Tyr Trp Ser Asn Trp Ser
610 615 620

Ser Pro Ala Tyr Thr Leu Val Met Asp Val Lys Val Pro Met Arg Gly
625 630 635 640

Pro Glu Phe Trp Arg Lys Met Asp Gly Asp Val Thr Lys Lys Glu Arg
645 650 655

Asn Val Thr Leu Leu Trp Lys Pro Leu Thr Lys Asn Asp Ser Leu Cys
660 665 670

Ser Val Arg Arg Tyr Val Val Lys His Arg Thr Ala His Asn Gly Thr
675 680 685

Trp Ser Glu Asp Val Gly Asn Arg Thr Asn Leu Thr Phe Leu Trp Thr
690 695 700

Glu Pro Ala His Thr Val Thr Val Leu Ala Val Asn Ser Leu Gly Ala
705 710 715 720

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Ser Leu Val Asn Phe Asn Leu Thr Phe Ser Trp Pro Met Ser Lys Val
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Ser Ala Val Glu Ser Leu Ser Ala Tyr Pro Leu Ser Ser Ser Cys Val
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Ile Leu Ser Trp Thr Leu Ser Pro Asp Asp Tyr Ser Leu Leu Tyr Leu
        755                 760                 765

Val Ile Glu Trp Lys Ile Leu Asn Glu Asp Asp Gly Met Lys Trp Leu
    770                 775                 780

Arg Ile Pro Ser Asn Val Lys Lys Phe Tyr Ile His Asp Asn Phe Ile
785                 790                 795                 800

Pro Ile Glu Lys Tyr Gln Phe Ser Leu Tyr Pro Val Phe Met Glu Gly
                805                 810                 815

Val Gly Lys Pro Lys Ile Ile Asn Gly Phe Thr Lys Asp Ala Ile Asp
            820                 825                 830

Lys Gln Gln Asn Asp Ala Gly Leu Tyr Val Ile Val Pro Ile Ile Ile
        835                 840                 845

Ser Ser Cys Val Leu Leu Leu Gly Thr Leu Leu Ile Ser His Gln Arg
    850                 855                 860

Met Lys Lys Leu Phe Trp Asp Asp Val Pro Asn Pro Lys Asn Cys Ser
865                 870                 875                 880

Trp Ala Gln Gly Leu Asn Phe Gln Lys Asp Ile Ser Leu His Glu Val
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Phe Ile Phe Arg
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<211> 2461

<212> DNA

<213> Mus musculus

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<212> PRT

<213> Mus musculus

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Phe Lys Leu Phe Cys Gly Pro Pro Asn Thr Thr Asp Asp Ser Phe Leu
35 40 45

Ser Pro Ala Gly Ala Pro Asn Asn Ala Ser Ala Leu Lys Gly Ala Ser
50 55 60

Glu Ala Ile Val Glu Ala Lys Phe Asn Ser Ser Gly Ile Tyr Val Pro
65 70 75 80

Glu Leu Ser Lys Thr Val Phe His Cys Cys Phe Gly Asn Glu Gln Gly
85 90 95

Gln Asn Cys Ser Ala Leu Thr Asp Asn Thr Glu Gly Lys Thr Leu Ala
100 105 110

Ser Val Val Lys Ala Ser Val Phe Arg Gln Leu Gly Val Asn Trp Asp
115 120 125

Ile Glu Cys Trp Met Lys Gly Asp Leu Thr Leu Phe Ile Cys His Met
130 135 140

Glu Pro Leu Pro Lys Asn Pro Phe Lys Asn Tyr Asp Ser Lys Val His
145 150 155 160

Leu Leu Tyr Asp Leu Pro Glu Val Ile Asp Asp Ser Pro Leu Pro Pro
165 170 175

Leu Lys Asp Ser Phe Gln Thr Val Gln Cys Asn Cys Ser Leu Arg Gly
180 185 190

Cys Glu Cys His Val Pro Val Pro Arg Ala Lys Leu Asn Tyr Ala Leu
195 200 205

Leu Met Tyr Leu Glu Ile Thr Ser Ala Gly Val Ser Phe Gln Ser Pro
210 215 220

71

Leu Met Ser Leu Gln Pro Met Leu Val Val Lys Pro Asp Pro Pro Leu
225 230 235 240

Gly Leu His Met Glu Val Thr Asp Asp Gly Asn Leu Lys Ile Ser Trp
245 250 255

Asp Ser Gln Thr Met Ala Pro Phe Pro Leu Gln Tyr Gln Val Lys Tyr
260 265 270

Leu Glu Asn Ser Thr Ile Val Arg Glu Ala Ala Glu Ile Val Ser Ala
275 280 285

Thr Ser Leu Leu Val Asp Ser Val Leu Pro Gly Ser Ser Tyr Glu Val
290 295 300

Gln Val Arg Ser Lys Arg Leu Asp Gly Ser Gly Val Trp Ser Asp Trp
305 310 315 320

Ser Ser Pro Gln Val Phe Thr Thr Gln Asp Val Val Tyr Phe Pro Pro
325 330 335

Lys Ile Leu Thr Ser Val Gly Ser Asn Ala Ser Phe His Cys Ile Tyr
340 345 350

Lys Asn Glu Asn Gln Ile Ile Ser Ser Lys Gln Ile Val Trp Trp Arg
355 360 365

Asn Leu Ala Glu Lys Ile Pro Glu Ile Gln Tyr Ser Ile Val Ser Asp
370 375 380

Arg Val Ser Lys Val Thr Phe Ser Asn Leu Lys Ala Thr Arg Pro Arg
385 390 395 400

Gly Lys Phe Thr Tyr Asp Ala Val Tyr Cys Cys Asn Glu Gln Ala Cys
405 410 415

His His Arg Tyr Ala Glu Leu Tyr Val Ile Asp Val Asn Ile Asn Ile
420 425 430

Ser Cys Glu Thr Asp Gly Tyr Leu Thr Lys Met Thr Cys Arg Trp Ser
435 440 445

Pro Ser Thr Ile Gln Ser Leu Val Gly Ser Thr Val Gln Leu Arg Tyr
450 455 460

71

His Arg Arg Ser Leu Tyr Cys Pro Asp Ser Pro Ser Ile His Pro Thr
465 470 475 480

Ser Glu Pro Lys Asn Cys Val Leu Gln Arg Asp Gly Phe Tyr Glu Cys
485 490 495

Val Phe Gln Pro Ile Phe Leu Leu Ser Gly Tyr Thr Met Trp Ile Arg
500 505 510

Ile Asn His Ser Leu Gly Ser Leu Asp Ser Pro Pro Thr Cys Val Leu
515 520 525

Pro Asp Ser Val Val Lys Pro Leu Pro Pro Ser Asn Val Lys Ala Glu
530 535 540

Ile Thr Val Asn Thr Gly Leu Leu Lys Val Ser Trp Glu Lys Pro Val
545 550 555 560

Phe Pro Glu Asn Asn Leu Gln Phe Gln Ile Arg Tyr Gly Leu Ser Gly
565 570 575

Lys Glu Ile Gln Trp Lys Thr His Glu Val Phe Asp Ala Lys Ser Lys
580 585 590

Ser Ala Ser Leu Leu Val Ser Asp Leu Cys Ala Val Tyr Val Val Gln
595 600 605

Val Arg Cys Arg Arg Leu Asp Gly Leu Gly Tyr Trp Ser Asn Trp Ser
610 615 620

Ser Pro Ala Tyr Thr Leu Val Met Asp Val Lys Val Pro Met Arg Gly
625 630 635 640

Pro Glu Phe Trp Arg Lys Met Asp Gly Asp Val Thr Lys Lys Glu Arg
645 650 655

Asn Val Thr Leu Leu Trp Lys Pro Leu Thr Lys Asn Asp Ser Leu Cys
660 665 670

Ser Val Arg Arg Tyr Val Val Lys His Arg Thr Ala His Asn Gly Thr
675 680 685

Trp Ser Glu Asp Val Gly Asn Arg Thr Asn Leu Thr Phe Leu Trp Thr
690 695 700

71 Glu Pro Ala His Thr Val Thr Val Leu Ala Val Asn Ser Leu Gly Ala
705 710 715 720

Ser Leu Val Asn Phe Asn Leu Thr Phe Ser Trp Pro Met Ser Lys Val
725 730 735

Ser Ala Val Glu Ser Leu Ser Ala Tyr Pro Leu Ser Ser Ser Cys Val
740 745 750

Ile Leu Ser Trp Thr Leu Ser Pro Asp Asp Tyr Ser Leu Leu Tyr Leu
755 760 765

Val Ile Glu Trp Lys Ile Leu Asn Glu Asp Asp Gly Met Lys Trp Leu
770 775 780

Arg Ile Pro Ser Asn Val Lys Lys Phe Tyr Ile His Gly Met Cys Thr
785 790 795 800

Val Leu Phe Met Asp
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<213> Mus musculus

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<210> 12

<211> 277

<212> PRT

<213> Mus musculus

<400> 12

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Glu Glu Ile Ser Val Asp Thr Ala Trp Lys Asn Lys Asp Glu Met Val
35 40 45

Pro Ala Ala Met Val Ser Leu Leu Leu Thr Thr Pro Asp Pro Glu Ser
50 55 60

Ser Ser Ile Cys Ile Ser Asp Gln Cys Asn Ser Ala Asn Phe Ser Gly
65 70 75 80

Ser Gln Ser Thr Gln Val Thr Cys Glu Asp Glu Cys Gln Arg Gln Pro
85 90 95

Ser Val Lys Tyr Ala Thr Leu Val Ser Asn Asp Lys Leu Val Glu Thr
100 105 110

Asp Glu Glu Gln Gly Phe Ile His Ser Pro Val Ser Asn Cys Ile Ser
115 120 125

Ser Asn His Ser Pro Leu Arg Gln Ser Phe Ser Ser Ser Ser Trp Glu
130 135 140

Thr Glu Ala Gln Thr Phe Phe Leu Leu Ser Asp Gln Gln Pro Thr Met

145 150 155 160

Ile Ser Pro Gln Leu Ser Phe Ser Gly Leu Asp Glu Leu Leu Glu Leu
165 170 175

Glu Gly Ser Phe Pro Glu Glu Asn His Arg Glu Lys Ser Val Cys Tyr
180 185 190

Leu Gly Val Thr Ser Val Asn Arg Arg Glu Ser Gly Val Leu Leu Thr
195 200 205

Gly Glu Ala Gly Ile Leu Cys Thr Phe Pro Ala Gln Cys Leu Phe Ser
210 215 220

Asp Ile Arg Ile Leu Gln Glu Arg Cys Ser His Phe Val Glu Asn Asn
225 230 235 240

Leu Ser Leu Gly Thr Ser Gly Glu Asn Phe Val Pro Tyr Met Pro Gln
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Phe Gln Thr Cys Ser Thr His Ser His Lys Ile Met Glu Asn Lys Met
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71

Cys Asp Leu Thr Val
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<211> 7

<212> PRT

<213> Mus musculus

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<210> 32

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<212> PRT

<213> Mus musculus

<400> 32

Glu Pro Leu Pro Lys Asn Pro Phe Lys Asn Tyr Asp Ser Lys
1 5 10

<210> 33

<211> 20

<212> PRT

71

<213> Mus musculus

<400> 33

His Arg Arg Ser Leu Tyr Cys Pro Asp Ser Pro Ser Ile His Pro Thr
1 5 10 15

Ser Glu Pro Lys
20

<210> 34

<211> 19

<212> PRT

<213> Mus musculus

<400> 34

Gln Arg Met Lys Lys Leu Phe Trp Asp Asp Val Pro Asn Pro Lys Asn
1 5 10 15

Cys Ser Trp

<210> 35

<211> 166

<212> DNA

<213> Mus musculus

<220>

<221> misc_feature

<222> (5)..(5)

<223> N can be A, C, T or G

<400> 35
agggnaagcg ccgagggaat tgacagccag aactgtaaca gtgtgcgctg gttctgtcca 60

caggaaagtg agattggtcc gatttcccac atcttctgac cacgtcccat tgtgggcagt 120

acgatgcttc accacgtacc tcctcacact acacagtgag tcattt 166

71

<210> 36

<211> 320

<212> DNA

<213> Mus musculus

<400> 36
ggtgaagcat cgtactgccc acaatgggac gtggtcagaa gatgtgggaa atcggaccaa 60

tctcactttc ctgtggacag aaccagcgca cactgttaca gttctggctg tcaattccct 120

cggcgcttcc cttgtgaatt ttaaccttac cttctcatgg cccatgagta aagtgagtgc 180

tgtggagtca ctcagtgctt atcccctgag cagcagctgt gtcatccttt cctggacact 240

gtcacctgat gattatagtc tgttatatct ggttattgaa tggaagatcc ttaatgaaga 300

tgatggaatg aagtggctta 320

<210> 37

<211> 158

<212> DNA

<213> Mus musculus

<400> 37
gattactgga gatgcagttg ctgacaggac tatggataaa cccttgctct tcatcagttt 60

ccactagttt atcgttgctg accagagttg catatttaac tgagggttgt ctctgacact 120

catcctcaca ggttacctgg gtgctctgag acccagag 158

<210> 38

<211> 192

<212> DNA

<213> Mus musculus

<400> 38
agagagatcc ctgaccctag ttagatctgt tttcaggctc tgtgttcatt tgatgttcag 60

aagtcagcaa ggttctcata tgtcctgagt tagtaagatg tctcagggtt cccccatcag 120

ctaacaacca ctttgacatg agaaggcaga aagttaaaga acactacttg gtgttttact 180

taaagatacg ag 192

71

<210> 39

<211> 168

<212> DNA

<213> Mus musculus

<220>

<221> misc_feature

<222> (55)..(55)

<223> N can be A, C, T or G

<220>

<221> misc_feature

<222> (62)..(62)

<223> N can be A, C, T or G

<220>

<221> misc_feature

<222> (72)..(72)

<223> N can be A, C, T or G

<220>

<221> misc_feature

<222> (143)..(143)

<223> N can be A, C, T or G

<400> 39
agactgacaa ggaagttttc tcatctaaca agcaagcaaa ggaactgctt atgtnctgtg 60

angaaccaag gnagctcaga tgtcaccata gtcatcatga actcgagtga ctctgccact 120

gttcccccag gatgtgcttg gangataatc ctgcgcaaga aacagata 168

21 <210> 40

<211> 259

<212> DNA

<213> Mus musculus

<220>

<221> misc_feature

<222> (83)..(83)

<223> N can be A, C, T or G

<220>

<221> misc_feature

<222> (101)..(101)

<223> N can be A, C, T or G

<220>

<221> misc_feature

<222> (181)..(181)

<223> N can be A, C, T or G

<400> 40
agaattatga ctctaaggtc catcttttat atgatctgcc tgaagtcata gatgattcgc 60

ctctgccccc actgaaagac agntttcaga ctgtccaatg naactgcagt cttcggggat 120

gtgaatgtca tgtgccagta cccagagcca aactcaacta cgctcttctg atgtatttgg 180

naatcacatc tgccggtgtg agttttcagt cacctctgat gtcactgcag cccatgcttg 240

ttgtgaaacc cgatccacc 259

<210> 41

<211> 250

<212> DNA

<213> Mus musculus

71

<220>

<221> misc_feature

<222> (193)..(193)

<223> N can be A, C, T or G

<400> 41
cttcaacaat tggttcagaa gccccccttca aagccgaggc attgtttggg gctccagcag 60

gtgagagaaa ggagtcatcg gttgtgttcg gtggtccaca aaacaactta aatttccagg 120

gagagattgg atatgccagg ttaagtgcag ctatcacata aagaaattcc cagtgtaaca 180

aaaccacata gantttctaa cacatcatct ttcttcagag gtgtacacct ggatttgcag 240

aacgattcct 250

<210> 42

<211> 18

<212> DNA

<213> Mus musculus

<400> 42
ccgagggaat tgacagcc 18

<210> 43

<211> 22

<212> DNA

<213> Mus musculus

<400> 43
ctcactgtgt agtgtgagga gg 22

<210> 44

<211> 19

<212> DNA

<213> Mus musculus

71

<400> 44
tcctgtggac agaaccagc 19

<210> 45

<211> 19

<212> DNA

<213> Mus musculus

<400> 45
tgacacagct gctgctcag 19

<210> 46

<211> 20

<212> DNA

<213> Mus musculus

<400> 46

ggtctcagag cacccaggta 20

<210> 47

<211> 22

<212> DNA

<213> Mus musculus

<400> 47
agagagatcc ctgaccctag tt 22

<210> 48

<211> 26

<212> DNA

<213> Mus musculus

<400> 48
aactttctgc cttccttctc atgtca 26

71

<210> 49

<211> 22

<212> DNA

<213> Mus musculus

<400> 49
tttctcatct aacaagcaag ca 22

<210> 50

<211> 20

<212> DNA

<213> Mus musculus

<400> 50
atctgtttct tgcgcaggat 20

<210> 51

<211> 18

<212> DNA

<213> Mus musculus

<400> 51
cattgtttgg ggctccag 18

<210> 52

<211> 20

<212> DNA

<213> Mus musculus

<400> 52
aatcgttctg caaatccagg 20

<210> 53

<211> 21

<212> DNA

<213> Mus musculus

<400> 53
tgaagtcata gatgattcgc c 21

<210> 54

<211> 20

<212> DNA

<213> Mus musculus

<400> 54
gttcgtaccc gacgtcactg 20

<210> 55

<211> 21

<212> DNA

<213> Artificial sequence

<220>

<223> oligonucleotide primer

<400> 55
ccttgtgccc aggaacaatt c 21

<210> 56

<211> 25

<212> DNA

<213> Artificial sequence

<220>

<223> oligonucleotide primer

<400> 56
gagaataacc ttcaattcca gattc 25

71

<210> 57

<211> 28

<212> DNA

<213> Artificial sequence

<220>

<223> oligonucleotide primer

<400> 57
cccaagctta aggccctctc ataggaac 28

<210> 58

<211> 26

<212> DNA

<213> Artificial sequence

<220>

<223> oligonucleotide primer

<400> 58
gacctctctg cagtctatgt ggtcca 26

<210> 59

<211> 24

<212> DNA

<213> Artificial sequence

<220>

<223> oligonucleotide primer

<400> 59
gaaaggtttc agtcacgctt gaag 24

<210> 60

<211> 30

<212> DNA

71 <213> Artificial sequence

<220>

<223> oligonucleotide primer

<400> 60
taacctggcg gatccgatct ctcccctggaa 30

<210> 61

<211> 30

<212> DNA

<213> Artificial sequence

<220>

<223> oligonucleotide primer

<400> 61
attatcagaa taagctttct acagtgtcat 30

<210> 62

<211> 25

<212> DNA

<213> Artificial sequence

<220>

<223> oligonucleotide primer

<400> 62
cgcggatcct atgctgaatt atacg 25

<210> 63

<211> 28

<212> DNA

<213> Artificial sequence

<220>

<223> oligonucleotide primer

<400> 63
cccaagctta aggccctctc ataggaac 28

71

<210> 64

<211> 24

<212> DNA

<213> Artificial sequence

<220>

<223> oligonucleotide primer

<400> 64
atcaggagaa tacaggctgc gcct 24

<210> 65

<211> 24

<212> DNA

<213> Artificial sequence

<220>

<223> oligonucleotide primer

<400> 65
ctgtattctc ctgatagtcc atct 24

<210> 66

<211> 26

<212> DNA

<213> Artificial sequence

<220>

<223> oligonucleotide primer

<400> 66
gactgcagag aggtctgaca ccagca 26

<210> 67

<211> 24

71

<212> DNA

<213> Artificial sequence

<220>

<223> oligonucleotide primer

<400> 67
aaggacagac gttggtggcg agtc 24

<210> 68

<211> 24

<212> DNA

<213> Artificial sequence

<220>

<223> oligonucleotide primer

<400> 68

ccaacgtctg tccttcctga ctcc 24

<210> 69

<211> 45

<212> DNA

<213> Artificial sequence

<220>

<223> oligonucleotide primer

<400> 69
ggagcgaacc tggaccacat agactgcaga gaggtctgac accag 45

<210> 70

<211> 45

<212> DNA

<213> Artificial sequence

71 <220>

<223> oligonucleotide primer

<400> 70
tctgcagtct atgtggtcca ggttcgctcc cggcggttgg atgga 45

<210> 71

<211> 30

<212> DNA

<213> Artificial sequence

<220>

<223> oligonucleotide primer

<400> 71
ctaggatcct cagtttttcg ccagctaggt 30

<210> 72

<211> 34

<212> DNA

<213> Artificial sequence

<220>

<223> oligonucleotide primer

<400> 72
gttttggatc cgctaggtgt aaactgggac atag 34

<210> 73

<211> 35

<212> DNA

<213> Artificial sequence

<220>

<223> oligonucleotide primer

<400> 73
ggtggggatc ctcaaacatc ttgtgtggta aagac 35

71

<210> 74

<211> 40

<212> DNA

<213> Artificial sequence

<220>

<223> oligonucleotide primer

<400> 74
ttcagatccc cgaagactgg agttgcattg gacagtctga 40

<210> 75

<211> 40

<212> DNA

<213> Artificial sequence

<220>

<223> oligonucleotide primer

<400> 75
aactccagtc ttcggggatc tgaatgtcat gtgccggtac 40

<210> 76

<211> 33

<212> DNA

<213> Artificial sequence

<220>

<223> oligonucleotide primer

<400> 76
cagtaagctt caaacatctt gtgtggtaaa gac 33

<210> 77

<211> 6

<212> PRT

<213> Mus musculus

<400> 77

Asp Arg Trp Gly Ser Tyr
1 5

<210> 78

<211> 6

<212> PRT

<213> Mus musculus

<400> 78

Asp Arg Trp Gly Ser Ser
1 5

<210> 79

<211> 6

<212> PRT

<213> Mus musculus

<400> 79

Asp Arg Trp Gly Ser Leu
1 5

<210> 80

<211> 33

<212> DNA

<213> Mus musculus

<400> 80
tgtcacctaa tgattatagt ctgttatatc tgg 33

<210> 81

<211> 33

<212> DNA

<213> Mus musculus

<400> 81
tgtcacctaa tgattaaagt ctgttatatc tgg 33

<210> 82

<211> 32

<212> DNA

<213> Mus musculus

<400> 82
ttggagcagt ccagcctata cgcttgtcat gg 32

<210> 83

<211> 32

<212> DNA

<213> Mus musculus

<400> 83
ttggagtaat tggagcagtc atggatgtaa aa 32

<210> 84

<211> 894

<212> PRT

<213> Mus musculus

<400> 84

Met Met Cys Gln Lys Phe Tyr Val Val Leu Leu His Trp Glu Phe Leu
1 5 10 15

Tyr Val Ile Ala Ala Leu Asn Leu Ala Tyr Pro Ile Ser Pro Trp Lys
20 25 30

71 Phe Lys Leu Phe Cys Gly Pro Pro Asn Thr Thr Asp Asp Ser Phe Leu
35 40 45

Ser Pro Ala Gly Ala Pro Asn Asn Ala Ser Ala Leu Lys Gly Ala Ser
50 55 60

Glu Ala Ile Val Glu Ala Lys Phe Asn Ser Ser Gly Ile Tyr Val Pro
65 70 75 80

Glu Leu Ser Lys Thr Val Phe His Cys Cys Phe Gly Asn Glu Gln Gly
85 90 95

Gln Asn Cys Ser Ala Leu Thr Asp Asn Thr Glu Gly Lys Thr Leu Ala
100 105 110

Ser Val Val Lys Ala Ser Val Phe Arg Gln Leu Gly Val Asn Trp Asp
115 120 125

Ile Glu Cys Trp Met Lys Gly Asp Leu Thr Leu Phe Ile Cys His Met
130 135 140

Glu Pro Leu Pro Lys Asn Pro Phe Lys Asn Tyr Asp Ser Lys Val His
145 150 155 160

Leu Leu Tyr Asp Leu Pro Glu Val Ile Asp Asp Ser Pro Leu Pro Pro
165 170 175

Leu Lys Asp Ser Phe Gln Thr Val Gln Cys Asn Cys Ser Leu Arg Gly
180 185 190

Cys Glu Cys His Val Pro Val Pro Arg Ala Lys Leu Asn Tyr Ala Leu
195 200 205

Leu Met Tyr Leu Glu Ile Thr Ser Ala Gly Val Ser Phe Gln Ser Pro
210 215 220

Leu Met Ser Leu Gln Pro Met Leu Val Val Lys Pro Asp Pro Pro Leu
225 230 235 240

Gly Leu His Met Glu Val Thr Asp Asp Gly Asn Leu Lys Ile Ser Trp
245 250 255

Asp Ser Gln Thr Met Ala Pro Phe Pro Leu Gln Tyr Gln Val Lys Tyr
260 265 270

Leu Glu Asn Ser Thr Ile Val Arg Glu Ala Ala Glu Ile Val Ser Ala
275 280 285

71

Thr Ser Leu Leu Val Asp Ser Val Leu Pro Gly Ser Ser Tyr Glu Val
290 295 300

Gln Val Arg Ser Lys Arg Leu Asp Gly Ser Gly Val Trp Ser Asp Trp
305 310 315 320

Ser Ser Pro Gln Val Phe Thr Thr Gln Asp Val Val Tyr Phe Pro Pro
325 330 335

Lys Ile Leu Thr Ser Val Gly Ser Asn Ala Ser Phe His Cys Ile Tyr
340 345 350

Lys Asn Glu Asn Gln Ile Ile Ser Ser Lys Gln Ile Val Trp Trp Arg
355 360 365

Asn Leu Ala Glu Lys Ile Pro Glu Ile Gln Tyr Ser Ile Val Ser Asp
370 375 380

Arg Val Ser Lys Val Thr Phe Ser Asn Leu Lys Ala Thr Arg Pro Arg
385 390 395 400

Gly Lys Phe Thr Tyr Asp Ala Val Tyr Cys Cys Asn Glu Gln Ala Cys
405 410 415

His His Arg Tyr Ala Glu Leu Tyr Val Ile Asp Val Asn Ile Asn Ile
420 425 430

Ser Cys Glu Thr Asp Gly Tyr Leu Thr Lys Met Thr Cys Arg Trp Ser
435 440 445

Pro Ser Thr Ile Gln Ser Leu Val Gly Ser Thr Val Gln Leu Arg Tyr
450 455 460

His Arg Arg Ser Leu Tyr Cys Pro Asp Ser Pro Ser Ile His Pro Thr
465 470 475 480

Ser Glu Pro Lys Asn Cys Val Leu Gln Arg Asp Gly Phe Tyr Glu Cys
485 490 495

Val Phe Gln Pro Ile Phe Leu Leu Ser Gly Tyr Thr Met Trp Ile Arg
500 505 510

Ile Asn His Ser Leu Gly Ser Leu Asp Ser Pro Pro Thr Cys Val Leu
515 520 525

71

Pro Asp Ser Val Val Lys Pro Leu Pro Pro Ser Asn Val Lys Ala Glu
530 535 540

Ile Thr Val Asn Thr Gly Leu Leu Lys Val Ser Trp Glu Lys Pro Val
545 550 555 560

Phe Pro Glu Asn Asn Leu Gln Phe Gln Ile Arg Tyr Gly Leu Ser Gly
565 570 575

Lys Glu Ile Gln Trp Lys Thr His Glu Val Phe Asp Ala Lys Ser Lys
580 585 590

Ser Ala Ser Leu Leu Val Ser Asp Leu Cys Ala Val Tyr Val Val Gln
595 600 605

Val Arg Cys Arg Arg Leu Asp Gly Leu Gly Tyr Trp Ser Asn Trp Ser
610 615 620

Ser Pro Ala Tyr Thr Leu Val Met Asp Val Lys Val Pro Met Arg Gly
625 630 635 640

Pro Glu Phe Trp Arg Lys Met Asp Gly Asp Val Thr Lys Lys Glu Arg

645 650 655

Asn Val Thr Leu Leu Trp Lys Pro Leu Thr Lys Asn Asp Ser Leu Cys
660 665 670

Ser Val Arg Arg Tyr Val Val Lys His Arg Thr Ala His Asn Gly Thr
675 680 685

Trp Ser Glu Asp Val Gly Asn Arg Thr Asn Leu Thr Phe Leu Trp Thr
690 695 700

Glu Pro Ala His Thr Val Thr Val Leu Ala Val Asn Ser Leu Gly Ala
705 710 715 720

Ser Leu Val Asn Phe Asn Leu Thr Phe Ser Trp Pro Met Ser Lys Val
725 730 735

Ser Ala Val Glu Ser Leu Ser Ala Tyr Pro Leu Ser Ser Ser Cys Val
740 745 750

Ile Leu Ser Trp Thr Leu Ser Pro Asp Asp Tyr Ser Leu Leu Tyr Leu
755 760 765

Val Ile Glu Trp Lys Ile Leu Asn Glu Asp Asp Gly Met Lys Trp Leu
770 775 780

71

Arg Ile Pro Ser Asn Val Lys Lys Phe Tyr Ile His Asp Asn Phe Ile
785 790 795 800

Pro Ile Glu Lys Tyr Gln Phe Ser Leu Tyr Pro Val Phe Met Glu Gly
805 810 815

Val Gly Lys Pro Lys Ile Ile Asn Gly Phe Thr Lys Asp Ala Ile Asp
820 825 830

Lys Gln Gln Asn Asp Ala Gly Leu Tyr Val Ile Val Pro Ile Ile Ile
835 840 845

Ser Ser Cys Val Leu Leu Leu Gly Thr Leu Leu Ile Ser His Gln Arg
850 855 860

Met Lys Lys Leu Phe Trp Asp Asp Val Pro Asn Pro Lys Asn Cys Ser
865 870 875 880

Trp Ala Gln Gly Leu Asn Phe Gln Lys Arg Thr Asp Thr Leu
885 890

<210> 85

<211> 1165

<212> PRT

<213> Homo sapiens

<400> 85

Met Ile Cys Gln Lys Phe Cys Val Val Leu Leu His Trp Glu Phe Ile
1 5 10 15

Tyr Val Ile Thr Ala Phe Asn Leu Ser Tyr Pro Ile Thr Pro Trp Arg
20 25 30

Phe Lys Leu Ser Cys Met Pro Pro Asn Ser Thr Tyr Asp Tyr Phe Leu
35 40 45

Leu Pro Ala Gly Leu Ser Lys Asn Thr Ser Asn Ser Asn Gly His Tyr
50 55 60

Glu Thr Ala Val Glu Pro Lys Phe Asn Ser Ser Gly Thr His Phe Ser
65 70 75 80

91

Asn Leu Ser Lys Thr Thr Phe His Cys Cys Phe Arg Ser Glu Gln Asp
85 90 95

Arg Asn Cys Ser Leu Cys Ala Asp Asn Ile Glu Gly Lys Thr Phe Val
100 105 110

Ser Thr Val Asn Ser Leu Val Phe Gln Gln Ile Asp Ala Asn Trp Asn
115 120 125

Ile Gln Cys Trp Leu Lys Gly Asp Leu Lys Leu Phe Ile Cys Tyr Val
130 135 140

Glu Ser Leu Phe Lys Asn Leu Phe Arg Asn Tyr Asn Tyr Lys Val His
145 150 155 160

Leu Leu Tyr Val Leu Pro Glu Val Leu Glu Asp Ser Pro Leu Val Pro
165 170 175

Gln Lys Gly Ser Phe Gln Met Val His Cys Asn Cys Ser Val His Glu
180 185 190

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Cys Cys Glu Cys Leu Val Pro Val Pro Thr Ala Lys Leu Asn Asp Thr
        195                 200                 205

Leu Leu Met Cys Leu Lys Ile Thr Ser Gly Gly Val Ile Phe Gln Ser
    210                 215                 220

Pro Leu Met Ser Val Gln Pro Ile Asn Met Val Lys Pro Asp Pro Pro
225                 230                 235                 240

Leu Gly Leu His Met Glu Ile Thr Asp Asp Gly Asn Leu Lys Ile Ser
                245                 250                 255

Trp Ser Ser Pro Pro Leu Val Pro Phe Pro Leu Gln Tyr Gln Val Lys
            260                 265                 270

Tyr Ser Glu Asn Ser Thr Thr Val Ile Arg Glu Ala Asp Lys Ile Val
        275                 280                 285

Ser Ala Thr Ser Leu Leu Val Asp Ser Ile Leu Pro Gly Ser Ser Tyr
    290                 295                 300

Glu Val Gln Val Arg Gly Lys Arg Leu Asp Gly Pro Gly Ile Trp Ser
305                 310                 315                 320

Asp Trp Ser Thr Pro Arg Val Phe Thr Thr Gln Asp Val Ile Tyr Phe
                325                 330                 335

Pro Pro Lys Ile Leu Thr Ser Val Gly Ser Asn Val Ser Phe His Cys
            340                 345                 350

Ile Tyr Lys Lys Glu Asn Lys Ile Val Pro Ser Lys Glu Ile Val Trp
        355                 360                 365

Trp Met Asn Leu Ala Glu Lys Ile Pro Gln Ser Gln Tyr Asp Val Val
    370                 375                 380

Ser Asp His Val Ser Lys Val Thr Phe Phe Asn Leu Asn Glu Thr Lys
385                 390                 395                 400

Pro Arg Gly Lys Phe Thr Tyr Asp Ala Val Tyr Cys Cys Asn Glu His
                405                 410                 415

Glu Cys His His Arg Tyr Ala Glu Leu Tyr Val Ile Asp Val Asn Ile
            420                 425                 430
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Asn Ile Ser Cys Glu Thr Asp Gly Tyr Leu Thr Lys Met Thr Cys Arg
435 440 445

Trp Ser Thr Ser Thr Ile Gln Ser Leu Ala Glu Ser Thr Leu Gln Leu
450 455 460

Arg Tyr His Arg Ser Ser Leu Tyr Cys Ser Asp Ile Pro Ser Ile His
465 470 475 480

Pro Ile Ser Glu Pro Lys Asp Cys Tyr Leu Gln Ser Asp Gly Phe Tyr
485 490 495

Glu Cys Ile Phe Gln Pro Ile Phe Leu Leu Ser Gly Tyr Thr Met Trp
500 505 510

Ile Arg Ile Asn His Ser Leu Gly Ser Leu Asp Ser Pro Pro Thr Cys
515 520 525

Val Leu Pro Asp Ser Val Val Lys Pro Leu Pro Pro Ser Ser Val Lys
530 535 540

Ala Glu Ile Thr Ile Asn Ile Gly Leu Leu Lys Ile Ser Trp Glu Lys
545 550 555 560

Pro Val Phe Pro Glu Asn Asn Leu Gln Phe Gln Ile Arg Tyr Gly Leu
565 570 575

71

Ser Gly Lys Glu Val Gln Trp Lys Met Tyr Glu Val Tyr Asp Ala Lys
580 585 590

Ser Lys Ser Val Ser Leu Pro Val Pro Asp Leu Cys Ala Val Tyr Ala
595 600 605

Val Gln Val Arg Cys Lys Arg Leu Asp Gly Leu Gly Tyr Trp Ser Asn
610 615 620

Trp Ser Asn Pro Ala Tyr Thr Val Val Met Asp Ile Lys Val Pro Met
625 630 635 640

Arg Gly Pro Glu Phe Trp Arg Ile Ile Asn Gly Asp Thr Met Lys Lys
645 650 655

Glu Lys Asn Val Thr Leu Leu Trp Lys Pro Leu Met Lys Asn Asp Ser
660 665 670

Leu Cys Ser Val Gln Arg Tyr Val Ile Asn His His Thr Ser Cys Asn

675 680 685

Gly Thr Trp Ser Glu Asp Val Gly Asn His Thr Lys Phe Thr Phe Leu
690 695 700

Trp Thr Glu Gln Ala His Thr Val Thr Val Leu Ala Ile Asn Ser Ile
705 710 715 720

Gly Ala Ser Val Ala Asn Phe Asn Leu Thr Phe Ser Trp Pro Met Ser
725 730 735

Lys Val Asn Ile Val Gln Ser Leu Ser Ala Tyr Pro Leu Asn Ser Ser
740 745 750

Cys Val Ile Val Ser Trp Ile Leu Ser Pro Ser Asp Tyr Lys Leu Met
755 760 765

Tyr Phe Ile Ile Glu Trp Lys Asn Leu Asn Glu Asp Gly Glu Ile Lys
770 775 780

Trp Leu Arg Ile Ser Ser Ser Val Lys Lys Tyr Tyr Ile His Asp His
785 790 795 800

71 Phe Ile Pro Ile Glu Lys Tyr Gln Phe Ser Leu Tyr Pro Ile Phe Met
805 810 815

Glu Gly Val Gly Lys Pro Lys Ile Ile Asn Ser Phe Thr Gln Asp Asp
820 825 830

Ile Glu Lys His Gln Ser Asp Ala Gly Leu Tyr Val Ile Val Pro Val
835 840 845

Ile Ile Ser Ser Ser Ile Leu Leu Leu Gly Thr Leu Leu Ile Ser His
850 855 860

Gln Arg Met Lys Lys Leu Phe Trp Glu Asp Val Pro Asn Pro Lys Asn
865 870 875 880

Cys Ser Trp Ala Gln Gly Leu Asn Phe Gln Lys Pro Glu Thr Phe Glu
885 890 895

His Leu Phe Ile Lys His Thr Ala Ser Val Thr Cys Gly Pro Leu Leu
900 905 910

Leu Glu Pro Glu Thr Ile Ser Glu Asp Ile Ser Val Asp Thr Ser Trp
915 920 925

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Lys Asn Lys Asp Glu Met Met Pro Thr Thr Val Val Ser Leu Leu Ser
    930                 935                 940

Thr Thr Asp Leu Glu Lys Gly Ser Val Cys Ile Ser Asp Gln Phe Asn
945                 950                 955                 960

Ser Val Asn Phe Ser Glu Ala Glu Gly Thr Glu Val Thr Tyr Glu Ala
                965                 970                 975

Glu Ser Gln Arg Gln Pro Phe Val Lys Tyr Ala Thr Leu Ile Ser Asn
            980                 985                 990

Ser Lys Pro Ser Glu Thr Gly Glu  Glu Gln Gly Leu Ile  Asn Ser Ser
        995                 1000                1005

Val Thr  Lys Cys Phe Ser Ser  Lys Asn Ser Pro Leu  Lys Asp Ser
    1010                1015                1020

Phe Ser  Asn Ser Ser Trp Glu  Ile Glu Ala Gln Ala  Phe Phe Ile
    1025                1030                1035

Leu Ser  Asp Gln His Pro Asn  Ile Ile Ser Pro His  Leu Thr Phe
    1040                1045                1050

Ser Glu  Gly Leu Asp Glu Leu  Leu Lys Leu Glu Gly  Asn Phe Pro
    1055                1060                1065

Glu Glu  Asn Asn Asp Lys Lys  Ser Ile Tyr Tyr Leu  Gly Val Thr
    1070                1075                1080

Ser Ile  Lys Lys Arg Glu Ser  Gly Val Leu Leu Thr  Asp Lys Ser
    1085                1090                1095

Arg Val  Ser Cys Pro Phe Pro  Ala Pro Cys Leu Phe  Thr Asp Ile
    1100                1105                1110

Arg Val  Leu Gln Asp Ser Cys  Ser His Phe Val Glu  Asn Asn Ile
    1115                1120                1125

Asn Leu  Gly Thr Ser Ser Lys  Lys Thr Phe Ala Ser  Tyr Met Pro
    1130                1135                1140

Gln Phe  Gln Thr Cys Ser Thr  Gln Thr His Lys Ile  Met Glu Asn
    1145                1150                1155
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Lys Met Cys Asp Leu Thr Val
1160 1165

<210> 86

<211> 1110

<212> PRT

<213> Mus musculus

<220>

<221> MISC_FEATURE

<222> (29)..(29)

<223> X can be any amino acid

<400> 86

Gly Leu Arg Ser Ala Ser Tyr Gln Pro Leu Lys Arg Phe Ser Arg Phe
1 5 10 15

71

Gln Ala Leu Ser Pro Cys Arg Ile Ser Thr Ser Leu Xaa Leu Val Pro
20 25 30

Asn Ser Ala Arg Gly Cys Phe Gly Asn Glu Gln Gly Gln Asn Cys Ser
35 40 45

Ala Leu Thr Asp Asn Thr Glu Gly Lys Thr Leu Ala Ser Val Val Lys
50 55 60

Ala Ser Val Phe Arg Gln Leu Gly Val Asn Trp Asp Ile Glu Cys Trp
65 70 75 80

Met Lys Gly Asp Leu Thr Leu Phe Ile Cys His Met Glu Pro Leu Pro
85 90 95

Lys Asn Pro Phe Lys Asn Tyr Asp Ser Lys Val His Leu Leu Tyr Asp
100 105 110

Leu Pro Glu Val Ile Asp Asp Ser Pro Leu Pro Pro Leu Lys Asp Ser
115 120 125

Phe Gln Thr Val Gln Cys Asn Cys Ser Leu Arg Gly Cys Glu Cys His
130 135 140

```
Val Pro Val Pro Arg Ala Lys Leu Asn Tyr Ala Leu Leu Met Tyr Leu
145                 150                 155                 160

Glu Ile Thr Ser Ala Gly Val Ser Phe Gln Ser Pro Leu Met Ser Leu
                165                 170                 175

Gln Pro Met Leu Val Val Lys Pro Asp Pro Pro Leu Gly Leu His Met
            180                 185                 190

Glu Val Thr Asp Asp Gly Asn Leu Lys Ile Ser Trp Asp Ser Gln Thr
        195                 200                 205

Met Ala Pro Phe Pro Leu Gln Tyr Gln Val Lys Tyr Leu Glu Asn Ser
    210                 215                 220

Thr Ile Val Arg Glu Ala Ala Glu Ile Val Ser Ala Thr Ser Leu Leu
225                 230                 235                 240

Val Asp Ser Val Leu Pro Gly Ser Ser Tyr Glu Val Gln Val Arg Ser
                245                 250                 255

Lys Arg Leu Asp Gly Ser Gly Val Trp Ser Asp Trp Ser Ser Pro Gln
            260                 265                 270

Val Phe Thr Thr Gln Asp Val Val Tyr Phe Pro Pro Lys Ile Leu Thr
        275                 280                 285

Ser Val Gly Ser Asn Ala Ser Phe His Cys Ile Tyr Lys Asn Glu Asn
    290                 295                 300

Gln Ile Ile Ser Ser Lys Gln Ile Val Trp Trp Arg Asn Leu Ala Glu
305                 310                 315                 320

Lys Ile Pro Glu Ile Gln Tyr Ser Ile Val Ser Asp Arg Val Ser Lys
                325                 330                 335

Val Thr Phe Ser Asn Leu Lys Ala Thr Arg Pro Arg Gly Lys Phe Thr
            340                 345                 350

Tyr Asp Ala Val Tyr Cys Cys Asn Glu Gln Ala Cys His His Arg Tyr
        355                 360                 365

Ala Glu Leu Tyr Val Ile Asp Val Asn Ile Asn Ile Ser Cys Glu Thr
    370                 375                 380
```

```
Asp Gly Tyr Leu Thr Lys Met Thr Cys Arg Trp Ser Pro Ser Thr Ile
385                 390                 395                 400

Gln Ser Leu Val Gly Ser Thr Val Gln Leu Arg Tyr His Arg Arg Ser
                405                 410                 415

Leu Tyr Cys Pro Asp Ser Pro Ser Ile His Pro Thr Ser Glu Pro Lys
            420                 425                 430

Asn Cys Val Leu Gln Arg Asp Gly Phe Tyr Glu Cys Val Phe Gln Pro
        435                 440                 445

Ile Phe Leu Leu Ser Gly Tyr Thr Met Trp Ile Arg Ile Asn His Ser
    450                 455                 460

Leu Gly Ser Leu Asp Ser Pro Pro Thr Cys Val Leu Pro Asp Ser Val
465                 470                 475                 480

Val Lys Pro Leu Pro Pro Ser Asn Val Lys Ala Glu Ile Thr Val Asn
                485                 490                 495

Thr Gly Leu Leu Lys Val Ser Trp Glu Lys Pro Val Phe Pro Glu Asn
            500                 505                 510

Asn Leu Gln Phe Gln Ile Arg Tyr Gly Leu Ser Gly Lys Glu Ile Gln
        515                 520                 525

Trp Lys Thr His Glu Val Phe Asp Ala Lys Ser Lys Ser Ala Ser Leu
    530                 535                 540

Leu Val Ser Asp Leu Cys Ala Val Tyr Val Val Gln Val Arg Cys Arg
545                 550                 555                 560

Arg Leu Asp Gly Leu Gly Tyr Trp Ser Asn Trp Ser Ser Pro Ala Tyr
                565                 570                 575

Thr Leu Val Met Asp Val Lys Val Pro Met Arg Gly Pro Glu Phe Trp
            580                 585                 590

Arg Lys Met Asp Gly Asp Val Thr Lys Lys Glu Arg Asn Val Thr Leu
        595                 600                 605

Leu Trp Lys Pro Leu Thr Lys Asn Asp Ser Leu Cys Ser Val Arg Arg
    610                 615                 620
```

Tyr Val Val Lys His Arg Thr Ala His Asn Gly Thr Trp Ser Glu Asp
625 630 635 640

Val Gly Asn Arg Thr Asn Leu Thr Phe Leu Trp Thr Glu Pro Ala His
645 650 655

Thr Val Thr Val Leu Ala Val Asn Ser Leu Gly Ala Ser Leu Val Asn
660 665 670

Phe Asn Leu Thr Phe Ser Trp Pro Met Ser Lys Val Ser Ala Val Glu
675 680 685

Ser Leu Ser Ala Tyr Pro Leu Ser Ser Ser Cys Val Ile Leu Ser Trp
690 695 700

Thr Leu Ser Pro Asp Asp Tyr Ser Leu Leu Tyr Leu Val Ile Glu Trp
705 710 715 720

Lys Ile Leu Asn Glu Asp Asp Gly Met Lys Trp Leu Arg Ile Pro Ser
725 730 735

Asn Val Lys Lys Phe Tyr Ile His Asp Asn Phe Ile Pro Ile Glu Lys
740 745 750

71 Tyr Gln Phe Ser Leu Tyr Pro Val Phe Met Glu Gly Val Gly Lys Pro
755 760 765

Lys Ile Ile Asn Gly Phe Thr Lys Asp Ala Ile Asp Lys Gln Gln Asn
770 775 780

Asp Ala Gly Leu Tyr Val Ile Val Pro Ile Ile Ile Ser Ser Cys Val
785 790 795 800

Leu Leu Leu Gly Thr Leu Leu Ile Ser His Gln Arg Met Lys Lys Leu
805 810 815

Phe Trp Asp Asp Val Pro Asn Pro Lys Asn Cys Ser Trp Ala Gln Gly
820 825 830

Leu Asn Phe Gln Lys Pro Glu Thr Phe Glu Gln Leu Phe Thr Lys His
835 840 845

Ala Glu Ser Val Ile Phe Gly Pro Leu Leu Leu Glu Pro Glu Pro Ile
850 855 860

Ser Glu Glu Ile Ser Val Asp Thr Ala Trp Lys Asn Lys Asp Glu Met

865 870 875 880

Val Pro Ala Ala Met Val Ser Leu Leu Leu Thr Thr Pro Asp Pro Glu
885 890 895

Ser Ser Ser Ile Cys Ile Ser Asp Gln Cys Asn Ser Ala Asn Phe Ser
900 905 910

Gly Ser Gln Ser Thr Gln Val Thr Cys Glu Asp Glu Cys Gln Arg Gln
915 920 925

Pro Ser Val Lys Tyr Ala Thr Leu Val Ser Asn Asp Lys Leu Val Glu
930 935 940

Thr Asp Glu Glu Gln Gly Phe Ile His Ser Pro Val Ser Asn Cys Ile
945 950 955 960

Ser Ser Asn His Ser Pro Leu Arg Gln Ser Phe Ser Ser Ser Ser Trp
965 970 975

Glu Thr Glu Ala Gln Thr Phe Phe Leu Leu Ser Asp Gln Gln Pro Thr
980 985 990

Met Ile Ser Pro Gln Leu Ser Phe Ser Gly Leu Asp Glu Leu Leu Glu
995 1000 1005

Leu Glu Gly Ser Phe Pro Glu Glu Asn His Arg Glu Lys Ser Val
1010 1015 1020

Cys Tyr Leu Gly Val Thr Ser Val Asn Arg Arg Glu Ser Gly Val
1025 1030 1035

Leu Leu Thr Gly Glu Ala Gly Ile Leu Cys Thr Phe Pro Ala Gln
1040 1045 1050

Cys Leu Phe Ser Asp Ile Arg Ile Leu Gln Glu Arg Cys Ser His
1055 1060 1065

Phe Val Glu Asn Asn Leu Ser Leu Gly Thr Ser Gly Glu Asn Phe
1070 1075 1080

Val Pro Tyr Met Pro Gln Phe Gln Thr Cys Ser Thr His Ser His
1085 1090 1095

Lys Ile Met Glu Asn Lys Met Cys Asp Leu Thr Val
1100 1105 1110

<210> 87

<211> 840

<212> PRT

<213> Mus musculus

<220>

<221> MISC_FEATURE

<222> (29)..(29)

<223> X can be any amino acid

<400> 87

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Gly Leu Arg Ser Ala Ser Tyr Gln Pro Leu Lys Arg Phe Ser Arg Phe
1               5                   10                  15

Gln Ala Leu Ser Pro Cys Arg Ile Ser Thr Ser Leu Xaa Leu Val Pro
            20                  25                  30

Asn Ser Ala Arg Gly Cys Phe Gly Asn Glu Gln Gly Gln Asn Cys Ser
        35                  40                  45

Ala Leu Thr Asp Asn Thr Glu Gly Lys Thr Leu Ala Ser Val Val Lys
    50                  55                  60

Ala Ser Val Phe Arg Gln Leu Gly Val Asn Trp Asp Ile Glu Cys Trp
65                  70                  75                  80

Met Lys Gly Asp Leu Thr Leu Phe Ile Cys His Met Glu Pro Leu Pro
                85                  90                  95

Lys Asn Pro Phe Lys Asn Tyr Asp Ser Lys Val His Leu Leu Tyr Asp
            100                 105                 110

Leu Pro Glu Val Ile Asp Asp Ser Pro Leu Pro Pro Leu Lys Asp Ser
        115                 120                 125

Phe Gln Thr Val Gln Cys Asn Cys Ser Leu Arg Gly Cys Glu Cys His
    130                 135                 140

Val Pro Val Pro Arg Ala Lys Leu Asn Tyr Ala Leu Leu Met Tyr Leu
```

145 150 155 160

Glu Ile Thr Ser Ala Gly Val Ser Phe Gln Ser Pro Leu Met Ser Leu
165 170 175

Gln Pro Met Leu Val Val Lys Pro Asp Pro Pro Leu Gly Leu His Met
180 185 190

Glu Val Thr Asp Asp Gly Asn Leu Lys Ile Ser Trp Asp Ser Gln Thr
195 200 205

Met Ala Pro Phe Pro Leu Gln Tyr Gln Val Lys Tyr Leu Glu Asn Ser
210 215 220

Thr Ile Val Arg Glu Ala Ala Glu Ile Val Ser Ala Thr Ser Leu Leu
225 230 235 240

Val Asp Ser Val Leu Pro Gly Ser Ser Tyr Glu Val Gln Val Arg Ser
245 250 255

Lys Arg Leu Asp Gly Ser Gly Val Trp Ser Asp Trp Ser Ser Pro Gln
260 265 270

Val Phe Thr Thr Gln Asp Val Val Tyr Phe Pro Pro Lys Ile Leu Thr
275 280 285

71

Ser Val Gly Ser Asn Ala Ser Phe His Cys Ile Tyr Lys Asn Glu Asn
290 295 300

Gln Ile Ile Ser Ser Lys Gln Ile Val Trp Trp Arg Asn Leu Ala Glu
305 310 315 320

Lys Ile Pro Glu Ile Gln Tyr Ser Ile Val Ser Asp Arg Val Ser Lys
325 330 335

Val Thr Phe Ser Asn Leu Lys Ala Thr Arg Pro Arg Gly Lys Phe Thr
340 345 350

Tyr Asp Ala Val Tyr Cys Cys Asn Glu Gln Ala Cys His His Arg Tyr
355 360 365

Ala Glu Leu Tyr Val Ile Asp Val Asn Ile Asn Ile Ser Cys Glu Thr
370 375 380

Asp Gly Tyr Leu Thr Lys Met Thr Cys Arg Trp Ser Pro Ser Thr Ile
385 390 395 400

```
Gln Ser Leu Val Gly Ser Thr Val Gln Leu Arg Tyr His Arg Arg Ser
                405                 410                 415

Leu Tyr Cys Pro Asp Ser Pro Ser Ile His Pro Thr Ser Glu Pro Lys
            420                 425                 430

Asn Cys Val Leu Gln Arg Asp Gly Phe Tyr Glu Cys Val Phe Gln Pro
        435                 440                 445

Ile Phe Leu Leu Ser Gly Tyr Thr Met Trp Ile Arg Ile Asn His Ser
    450                 455                 460

Leu Gly Ser Leu Asp Ser Pro Pro Thr Cys Val Leu Pro Asp Ser Val
465                 470                 475                 480

Val Lys Pro Leu Pro Pro Ser Asn Val Lys Ala Glu Ile Thr Val Asn
                485                 490                 495

Thr Gly Leu Leu Lys Val Ser Trp Glu Lys Pro Val Phe Pro Glu Asn
            500                 505                 510

Asn Leu Gln Phe Gln Ile Arg Tyr Gly Leu Ser Gly Lys Glu Ile Gln
        515                 520                 525

Trp Lys Thr His Glu Val Phe Asp Ala Lys Ser Lys Ser Ala Ser Leu
    530                 535                 540

Leu Val Ser Asp Leu Cys Ala Val Tyr Val Val Gln Val Arg Cys Arg
545                 550                 555                 560

Arg Leu Asp Gly Leu Gly Tyr Trp Ser Asn Trp Ser Ser Pro Ala Tyr
                565                 570                 575

Thr Leu Val Met Asp Val Lys Val Pro Met Arg Gly Pro Glu Phe Trp
            580                 585                 590

Arg Lys Met Asp Gly Asp Val Thr Lys Lys Glu Arg Asn Val Thr Leu
        595                 600                 605

Leu Trp Lys Pro Leu Thr Lys Asn Asp Ser Leu Cys Ser Val Arg Arg
    610                 615                 620

Tyr Val Val Lys His Arg Thr Ala His Asn Gly Thr Trp Ser Glu Asp
625                 630                 635                 640
```

Val Gly Asn Arg Thr Asn Leu Thr Phe Leu Trp Thr Glu Pro Ala His
645 650 655

Thr Val Thr Val Leu Ala Val Asn Ser Leu Gly Ala Ser Leu Val Asn
660 665 670

Phe Asn Leu Thr Phe Ser Trp Pro Met Ser Lys Val Ser Ala Val Glu
675 680 685

Ser Leu Ser Ala Tyr Pro Leu Ser Ser Ser Cys Val Ile Leu Ser Trp
690 695 700

Thr Leu Ser Pro Asp Asp Tyr Ser Leu Leu Tyr Leu Val Ile Glu Trp
705 710 715 720

Lys Ile Leu Asn Glu Asp Asp Gly Met Lys Trp Leu Arg Ile Pro Ser
725 730 735

Asn Val Lys Lys Phe Tyr Ile His Asp Asn Phe Ile Pro Ile Glu Lys
740 745 750

Tyr Gln Phe Ser Leu Tyr Pro Val Phe Met Glu Gly Val Gly Lys Pro
755 760 765

71

Lys Ile Ile Asn Gly Phe Thr Lys Asp Ala Ile Asp Lys Gln Gln Asn
770 775 780

Asp Ala Gly Leu Tyr Val Ile Val Pro Ile Ile Ile Ser Ser Cys Val
785 790 795 800

Leu Leu Leu Gly Thr Leu Leu Ile Ser His Gln Arg Met Lys Lys Leu
805 810 815

Phe Trp Asp Asp Val Pro Asn Pro Lys Asn Cys Ser Trp Ala Gln Gly
820 825 830

Leu Asn Phe Gln Lys Val Thr Val
835 840

<210> 88

<211> 848

<212> PRT

<213> Mus musculus

<220>

<221> MISC_FEATURE

<222> (29)..(29)

<223> X can be any amino acid

<400> 88

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Gly Leu Arg Ser Ala Ser Tyr Gln Pro Leu Lys Arg Phe Ser Arg Phe
1               5                  10                  15

Gln Ala Leu Ser Pro Cys Arg Ile Ser Thr Ser Leu Xaa Leu Val Pro
            20                  25                  30

Asn Ser Ala Arg Gly Cys Phe Gly Asn Glu Gln Gly Gln Asn Cys Ser
        35                  40                  45

Ala Leu Thr Asp Asn Thr Glu Gly Lys Thr Leu Ala Ser Val Val Lys
    50                  55                  60

Ala Ser Val Phe Arg Gln Leu Gly Val Asn Trp Asp Ile Glu Cys Trp
65                  70                  75                  80

Met Lys Gly Asp Leu Thr Leu Phe Ile Cys His Met Glu Pro Leu Pro
                85                  90                  95

Lys Asn Pro Phe Lys Asn Tyr Asp Ser Lys Val His Leu Leu Tyr Asp
            100                 105                 110

Leu Pro Glu Val Ile Asp Asp Ser Pro Leu Pro Pro Leu Lys Asp Ser
        115                 120                 125

Phe Gln Thr Val Gln Cys Asn Cys Ser Leu Arg Gly Cys Glu Cys His
    130                 135                 140

Val Pro Val Pro Arg Ala Lys Leu Asn Tyr Ala Leu Leu Met Tyr Leu
145                 150                 155                 160

Glu Ile Thr Ser Ala Gly Val Ser Phe Gln Ser Pro Leu Met Ser Leu
                165                 170                 175

Gln Pro Met Leu Val Val Lys Pro Asp Pro Pro Leu Gly Leu His Met
            180                 185                 190
```

Glu Val Thr Asp Asp Gly Asn Leu Lys Ile Ser Trp Asp Ser Gln Thr
195 200 205

Met Ala Pro Phe Pro Leu Gln Tyr Gln Val Lys Tyr Leu Glu Asn Ser
210 215 220

Thr Ile Val Arg Glu Ala Ala Glu Ile Val Ser Ala Thr Ser Leu Leu
225 230 235 240

Val Asp Ser Val Leu Pro Gly Ser Ser Tyr Glu Val Gln Val Arg Ser
245 250 255

Lys Arg Leu Asp Gly Ser Gly Val Trp Ser Asp Trp Ser Ser Pro Gln
260 265 270

Val Phe Thr Thr Gln Asp Val Val Tyr Phe Pro Pro Lys Ile Leu Thr
275 280 285

Ser Val Gly Ser Asn Ala Ser Phe His Cys Ile Tyr Lys Asn Glu Asn
290 295 300

Gln Ile Ile Ser Ser Lys Gln Ile Val Trp Trp Arg Asn Leu Ala Glu
305 310 315 320

71

Lys Ile Pro Glu Ile Gln Tyr Ser Ile Val Ser Asp Arg Val Ser Lys
325 330 335

Val Thr Phe Ser Asn Leu Lys Ala Thr Arg Pro Arg Gly Lys Phe Thr
340 345 350

Tyr Asp Ala Val Tyr Cys Cys Asn Glu Gln Ala Cys His His Arg Tyr
355 360 365

Ala Glu Leu Tyr Val Ile Asp Val Asn Ile Asn Ile Ser Cys Glu Thr
370 375 380

Asp Gly Tyr Leu Thr Lys Met Thr Cys Arg Trp Ser Pro Ser Thr Ile
385 390 395 400

Gln Ser Leu Val Gly Ser Thr Val Gln Leu Arg Tyr His Arg Arg Ser
405 410 415

Leu Tyr Cys Pro Asp Ser Pro Ser Ile His Pro Thr Ser Glu Pro Lys
420 425 430

Asn Cys Val Leu Gln Arg Asp Gly Phe Tyr Glu Cys Val Phe Gln Pro
435 440 445

Ile Phe Leu Leu Ser Gly Tyr Thr Met Trp Ile Arg Ile Asn His Ser
450 455 460

Leu Gly Ser Leu Asp Ser Pro Pro Thr Cys Val Leu Pro Asp Ser Val
465 470 475 480

Val Lys Pro Leu Pro Pro Ser Asn Val Lys Ala Glu Ile Thr Val Asn
485 490 495

Thr Gly Leu Leu Lys Val Ser Trp Glu Lys Pro Val Phe Pro Glu Asn
500 505 510

Asn Leu Gln Phe Gln Ile Arg Tyr Gly Leu Ser Gly Lys Glu Ile Gln
515 520 525

Trp Lys Thr His Glu Val Phe Asp Ala Lys Ser Lys Ser Ala Ser Leu
530 535 540

Leu Val Ser Asp Leu Cys Ala Val Tyr Val Val Gln Val Arg Cys Arg
545 550 555 560

71

Arg Leu Asp Gly Leu Gly Tyr Trp Ser Asn Trp Ser Ser Pro Ala Tyr
565 570 575

Thr Leu Val Met Asp Val Lys Val Pro Met Arg Gly Pro Glu Phe Trp
580 585 590

Arg Lys Met Asp Gly Asp Val Thr Lys Lys Glu Arg Asn Val Thr Leu
595 600 605

Leu Trp Lys Pro Leu Thr Lys Asn Asp Ser Leu Cys Ser Val Arg Arg
610 615 620

Tyr Val Val Lys His Arg Thr Ala His Asn Gly Thr Trp Ser Glu Asp
625 630 635 640

Val Gly Asn Arg Thr Asn Leu Thr Phe Leu Trp Thr Glu Pro Ala His
645 650 655

Thr Val Thr Val Leu Ala Val Asn Ser Leu Gly Ala Ser Leu Val Asn
660 665 670

Phe Asn Leu Thr Phe Ser Trp Pro Met Ser Lys Val Ser Ala Val Glu

675 680 685

Ser Leu Ser Ala Tyr Pro Leu Ser Ser Ser Cys Val Ile Leu Ser Trp
690 695 700

Thr Leu Ser Pro Asp Asp Tyr Ser Leu Leu Tyr Leu Val Ile Glu Trp
705 710 715 720

Lys Ile Leu Asn Glu Asp Asp Gly Met Lys Trp Leu Arg Ile Pro Ser
725 730 735

Asn Val Lys Lys Phe Tyr Ile His Asp Asn Phe Ile Pro Ile Glu Lys
740 745 750

Tyr Gln Phe Ser Leu Tyr Pro Val Phe Met Glu Gly Val Gly Lys Pro
755 760 765

Lys Ile Ile Asn Gly Phe Thr Lys Asp Ala Ile Asp Lys Gln Gln Asn
770 775 780

Asp Ala Gly Leu Tyr Val Ile Val Pro Ile Ile Ile Ser Ser Cys Val
785 790 795 800

71 Leu Leu Leu Gly Thr Leu Leu Ile Ser His Gln Arg Met Lys Lys Leu
805 810 815

Phe Trp Asp Asp Val Pro Asn Pro Lys Asn Cys Ser Trp Ala Gln Gly
820 825 830

Leu Asn Phe Gln Lys Asp Ile Ser Leu His Glu Val Phe Ile Phe Arg
835 840 845

<210> 89

<211> 314

<212> PRT

<213> Mus musculus

<220>

<221> MISC_FEATURE

<222> (79)..(79)

<223> X can be any amino acid

<400> 89

Leu Arg Asp Leu Val Ser Gly Phe Glu Glu Ile Asn Lys Ile Lys Glu
1 5 10 15

Asn Phe Ser Arg Ala Gly Leu Leu Ala Glu Leu Arg Pro Thr Ala Phe
20 25 30

Tyr Ile Ser Thr Leu Ser Leu Phe Pro Ser Ala Leu Ala Leu Asp Trp
35 40 45

Ala Val Pro Gly Leu Val Leu Leu Phe Pro Gly Gly Asn Val Glu Leu
50 55 60

His Glu Phe Trp Tyr Lys His Cys Gly Leu Cys Ala Asn Ile Xaa Cys
65 70 75 80

Phe Leu Gln Pro Leu Thr Lys Asn Asp Ser Leu Cys Ser Val Arg Arg
85 90 95

Tyr Val Val Lys His Arg Thr Ala His Asn Gly Thr Trp Ser Glu Asp
100 105 110

71 Val Gly Asn Arg Thr Asn Leu Thr Phe Leu Trp Thr Glu Pro Ala His
115 120 125

Thr Val Thr Val Leu Ala Val Asn Ser Leu Gly Ala Ser Leu Val Asn
130 135 140

Phe Asn Leu Thr Phe Ser Trp Pro Met Ser Lys Val Ser Ala Val Glu
145 150 155 160

Ser Leu Ser Ala Tyr Pro Leu Ser Ser Ser Cys Val Ile Leu Ser Trp
165 170 175

Thr Leu Ser Pro Asp Asp Tyr Ser Leu Leu Tyr Leu Val Ile Glu Trp
180 185 190

Lys Ile Leu Asn Glu Asp Asp Gly Met Lys Trp Leu Arg Ile Pro Ser
195 200 205

Asn Val Lys Lys Phe Tyr Ile His Asp Asn Phe Ile Pro Ile Glu Lys
210 215 220

Tyr Gln Phe Ser Leu Tyr Pro Val Phe Met Glu Gly Val Gly Lys Pro

225 230 235 240

Lys Ile Ile Asn Gly Phe Thr Lys Asp Ala Ile Asp Lys Gln Gln Asn
245 250 255

Asp Ala Gly Leu Tyr Val Ile Val Pro Ile Ile Ile Ser Ser Cys Val
260 265 270

Leu Leu Leu Gly Thr Leu Leu Ile Ser His Gln Arg Met Lys Lys Leu
275 280 285

Phe Trp Asp Asp Val Pro Asn Pro Lys Asn Cys Ser Trp Ala Gln Gly
290 295 300

Leu Asn Phe Gln Lys Arg Thr Asp Thr Leu
305 310

<210> 90

<211> 321

<212> PRT

<213> Mus musculus

71

<220>

<221> MISC_FEATURE

<222> (14)..(14)

<223> X can be any amino acid

<220>

<221> MISC_FEATURE

<222> (19)..(19)

<223> X can be any amino acid

<220>

<221> MISC_FEATURE

<222> (25)..(25)

<223> X can be any amino acid

<220>

<221> MISC_FEATURE

<222> (58)..(58)

<223> X can be any amino acid

<220>

<221> MISC_FEATURE

<222> (67)..(67)

<223> X can be any amino acid

<220>

<221> MISC_FEATURE

<222> (68)..(68)

<223> X can be any amino acid

<220>

<221> MISC_FEATURE

<222> (84)..(84)

<223> X can be any amino acid

<220>

<221> MISC_FEATURE

<222> (86)..(86)

<223> X can be any amino acid

<400> 90

```
Leu Arg Asp Leu Val Ser Gly Phe Glu Glu Ile Asn Lys Xaa Ile Lys
1               5                  10                  15

Glu Asn Xaa Phe Ser Arg Ala Gly Xaa Leu Leu Ala Glu Leu Arg Pro
            20                  25                  30
```

Thr Ala Phe Tyr Ile Ser Thr Leu Ser Leu Phe Pro Ser Ala Leu Ala
35 40 45

Leu Asp Trp Ala Val Pro Gly Leu Val Xaa Leu Leu Phe Pro Gly Gly
50 55 60

Asn Val Xaa Xaa Glu Leu His Glu Phe Trp Tyr Lys His Cys Gly Leu
65 70 75 80

Cys Ala Asn Xaa Ile Xaa Cys Phe Leu Gln Pro Leu Thr Lys Asn Asp
85 90 95

Ser Leu Cys Ser Val Arg Arg Tyr Val Val Lys His Arg Thr Ala His
100 105 110

Asn Gly Thr Trp Ser Glu Asp Val Gly Asn Arg Thr Asn Leu Thr Phe
115 120 125

Leu Trp Thr Glu Pro Ala His Thr Val Thr Val Leu Ala Val Asn Ser
130 135 140

71 Leu Gly Ala Ser Leu Val Asn Phe Asn Leu Thr Phe Ser Trp Pro Met
145 150 155 160

Ser Lys Val Ser Ala Val Glu Ser Leu Ser Ala Tyr Pro Leu Ser Ser
165 170 175

Ser Cys Val Ile Leu Ser Trp Thr Leu Ser Pro Asp Asp Tyr Ser Leu
180 185 190

Leu Tyr Leu Val Ile Glu Trp Lys Ile Leu Asn Glu Asp Asp Gly Met
195 200 205

Lys Trp Leu Arg Ile Pro Ser Asn Val Lys Lys Phe Tyr Ile His Asp
210 215 220

Asn Phe Ile Pro Ile Glu Lys Tyr Gln Phe Ser Leu Tyr Pro Val Phe
225 230 235 240

Met Glu Gly Val Gly Lys Pro Lys Ile Ile Asn Gly Phe Thr Lys Asp
245 250 255

Ala Ile Asp Lys Gln Gln Asn Asp Ala Gly Leu Tyr Val Ile Val Pro
260 265 270

Ile Ile Ile Ser Ser Cys Val Leu Leu Gly Thr Leu Leu Ile Ser
275 280 285

His Gln Arg Met Lys Lys Leu Phe Trp Asp Asp Val Pro Asn Pro Lys
290 295 300

Asn Cys Ser Trp Ala Gln Gly Leu Asn Phe Gln Lys Arg Thr Asp Thr
305 310 315 320

Leu

<210> 91

<211> 320

<212> PRT

<213> Mus musculus

<220>

71 <221> MISC_FEATURE

<222> (79)..(79)

<223> X can be any amino acid

<400> 91

Leu Arg Asp Leu Val Ser Gly Phe Glu Glu Ile Asn Lys Ile Lys Glu
1 5 10 15

Asn Phe Ser Arg Ala Gly Leu Leu Ala Glu Leu Arg Pro Thr Ala Phe
20 25 30

Tyr Ile Ser Thr Leu Ser Leu Phe Pro Ser Ala Leu Ala Leu Asp Trp
35 40 45

Ala Val Pro Gly Leu Val Leu Leu Phe Pro Gly Gly Asn Val Glu Leu
50 55 60

His Glu Phe Trp Tyr Lys His Cys Gly Leu Cys Ala Asn Ile Xaa Cys
65 70 75 80

Phe Leu Gln Pro Leu Thr Lys Asn Asp Ser Leu Cys Ser Val Arg Arg
85 90 95

```
Tyr Val Val Lys His Arg Thr Ala His Asn Gly Thr Trp Ser Glu Asp
            100                 105                 110

Val Gly Asn Arg Thr Asn Leu Thr Phe Leu Trp Thr Glu Pro Ala His
        115                 120                 125

Thr Val Thr Val Leu Ala Val Asn Ser Leu Gly Ala Ser Leu Val Asn
    130                 135                 140

Phe Asn Leu Thr Phe Ser Trp Pro Met Ser Lys Val Ser Ala Val Glu
145                 150                 155                 160

Ser Leu Ser Ala Tyr Pro Leu Ser Ser Ser Cys Val Ile Leu Ser Trp
                165                 170                 175

Thr Leu Ser Pro Asp Asp Tyr Ser Leu Leu Tyr Leu Val Ile Glu Trp
            180                 185                 190

Lys Ile Leu Asn Glu Asp Asp Gly Met Lys Trp Leu Arg Ile Pro Ser
        195                 200                 205

Asn Val Lys Lys Phe Tyr Ile His Asp Asn Phe Ile Pro Ile Glu Lys
    210                 215                 220

Tyr Gln Phe Ser Leu Tyr Pro Val Phe Met Glu Gly Val Gly Lys Pro
225                 230                 235                 240

Lys Ile Ile Asn Gly Phe Thr Lys Asp Ala Ile Asp Lys Gln Gln Asn
                245                 250                 255

Asp Ala Gly Leu Tyr Val Ile Val Pro Ile Ile Ile Ser Ser Cys Val
            260                 265                 270

Leu Leu Leu Gly Thr Leu Leu Ile Ser His Gln Arg Met Lys Lys Leu
        275                 280                 285

Phe Trp Asp Asp Val Pro Asn Pro Lys Asn Cys Ser Trp Ala Gln Gly
    290                 295                 300

Leu Asn Phe Gln Lys Asp Ile Ser Leu His Glu Val Phe Ile Phe Arg
305                 310                 315                 320
```


<210> 92

<211> 327

<212> PRT

<213> Mus musculus

<220>

<221> MISC_FEATURE

<222> (14)..(14)

<223> X can be any amino acid

<220>

<221> MISC_FEATURE

<222> (19)..(19)

<223> X can be any amino acid

<220>

<221> MISC_FEATURE

<222> (25)..(25)

<223> X can be any amino acid

<220>

<221> MISC_FEATURE

<222> (58)..(58)

<223> X can be any amino acid

<220>

<221> MISC_FEATURE

<222> (67)..(67)

<223> X can be any amino acid

<220>

<221> MISC_FEATURE

<222> (68)..(68)

<223> X can be any amino acid

<220>

<221> MISC_FEATURE

<222> (84)..(84)

<223> X can be any amino acid

<220>

<221> MISC_FEATURE

<222> (86)..(86)

<223> X can be any amino acid

<400> 92

```
Leu Arg Asp Leu Val Ser Gly Phe Glu Glu Ile Asn Lys Xaa Ile Lys
1               5                  10                  15

Glu Asn Xaa Phe Ser Arg Ala Gly Xaa Leu Leu Ala Glu Leu Arg Pro
            20                  25                  30

Thr Ala Phe Tyr Ile Ser Thr Leu Ser Leu Phe Pro Ser Ala Leu Ala
        35                  40                  45

Leu Asp Trp Ala Val Pro Gly Leu Val Xaa Leu Leu Phe Pro Gly Gly
    50                  55                  60

Asn Val Xaa Xaa Glu Leu His Glu Phe Trp Tyr Lys His Cys Gly Leu
65                  70                  75                  80

Cys Ala Asn Xaa Ile Xaa Cys Phe Leu Gln Pro Leu Thr Lys Asn Asp
                85                  90                  95

Ser Leu Cys Ser Val Arg Arg Tyr Val Val Lys His Arg Thr Ala His
            100                 105                 110

Asn Gly Thr Trp Ser Glu Asp Val Gly Asn Arg Thr Asn Leu Thr Phe
        115                 120                 125

Leu Trp Thr Glu Pro Ala His Thr Val Thr Val Leu Ala Val Asn Ser
```

130 135 140

Leu Gly Ala Ser Leu Val Asn Phe Asn Leu Thr Phe Ser Trp Pro Met
145 150 155 160

Ser Lys Val Ser Ala Val Glu Ser Leu Ser Ala Tyr Pro Leu Ser Ser
165 170 175

Ser Cys Val Ile Leu Ser Trp Thr Leu Ser Pro Asp Asp Tyr Ser Leu
180 185 190

Leu Tyr Leu Val Ile Glu Trp Lys Ile Leu Asn Glu Asp Asp Gly Met
195 200 205

Lys Trp Leu Arg Ile Pro Ser Asn Val Lys Lys Phe Tyr Ile His Asp
210 215 220

Asn Phe Ile Pro Ile Glu Lys Tyr Gln Phe Ser Leu Tyr Pro Val Phe
225 230 235 240

Met Glu Gly Val Gly Lys Pro Lys Ile Ile Asn Gly Phe Thr Lys Asp
245 250 255

Ala Ile Asp Lys Gln Gln Asn Asp Ala Gly Leu Tyr Val Ile Val Pro
260 265 270

Ile Ile Ile Ser Ser Cys Val Leu Leu Leu Gly Thr Leu Leu Ile Ser
275 280 285

His Gln Arg Met Lys Lys Leu Phe Trp Asp Asp Val Pro Asn Pro Lys
290 295 300

Asn Cys Ser Trp Ala Gln Gly Leu Asn Phe Gln Lys Asp Ile Ser Leu
305 310 315 320

His Glu Val Phe Ile Phe Arg
325

<210> 93

<211> 894

<212> PRT

<213> Mus musculus

<400> 93

```
Met Met Cys Gln Lys Phe Tyr Val Val Leu Leu His Trp Glu Phe Leu
1               5                  10                  15

Tyr Val Ile Ala Ala Leu Asn Leu Ala Tyr Pro Ile Ser Pro Trp Lys
            20                  25                  30

Phe Lys Leu Phe Cys Gly Pro Pro Asn Thr Thr Asp Asp Ser Phe Leu
        35                  40                  45

Ser Pro Ala Gly Ala Pro Asn Asn Ala Ser Ala Leu Lys Gly Ala Ser
    50                  55                  60

Glu Ala Ile Val Glu Ala Lys Phe Asn Ser Ser Gly Ile Tyr Val Pro
65                  70                  75                  80

Glu Leu Ser Lys Thr Val Phe His Cys Cys Phe Gly Asn Glu Gln Gly
                85                  90                  95

Gln Asn Cys Ser Ala Leu Thr Asp Asn Thr Glu Gly Lys Thr Leu Ala
            100                 105                 110

Ser Val Val Lys Ala Ser Val Phe Arg Gln Leu Gly Val Asn Trp Asp
        115                 120                 125

Ile Glu Cys Trp Met Lys Gly Asp Leu Thr Leu Phe Ile Cys His Met
    130                 135                 140

Glu Pro Leu Pro Lys Asn Pro Phe Lys Asn Tyr Asp Ser Lys Val His
145                 150                 155                 160

Leu Leu Tyr Asp Leu Pro Glu Val Ile Asp Asp Ser Pro Leu Pro Pro
                165                 170                 175

Leu Lys Asp Ser Phe Gln Thr Val Gln Cys Asn Cys Ser Leu Arg Gly
            180                 185                 190

Cys Glu Cys His Val Pro Val Pro Arg Ala Lys Leu Asn Tyr Ala Leu
        195                 200                 205

Leu Met Tyr Leu Glu Ile Thr Ser Ala Gly Val Ser Phe Gln Ser Pro
    210                 215                 220

Leu Met Ser Leu Gln Pro Met Leu Val Val Lys Pro Asp Pro Pro Leu
225                 230                 235                 240
```

```
Gly Leu His Met Glu Val Thr Asp Asp Gly Asn Leu Lys Ile Ser Trp
                245                 250                 255

Asp Ser Gln Thr Met Ala Pro Phe Pro Leu Gln Tyr Gln Val Lys Tyr
            260                 265                 270

Leu Glu Asn Ser Thr Ile Val Arg Glu Ala Ala Glu Ile Val Ser Ala
        275                 280                 285

Thr Ser Leu Leu Val Asp Ser Val Leu Pro Gly Ser Ser Tyr Glu Val
    290                 295                 300

Gln Val Arg Ser Lys Arg Leu Asp Gly Ser Gly Val Trp Ser Asp Trp
305                 310                 315                 320

Ser Ser Pro Gln Val Phe Thr Thr Gln Asp Val Val Tyr Phe Pro Pro
                325                 330                 335

Lys Ile Leu Thr Ser Val Gly Ser Asn Ala Ser Phe His Cys Ile Tyr
            340                 345                 350

Lys Asn Glu Asn Gln Ile Ile Ser Ser Lys Gln Ile Val Trp Trp Arg
        355                 360                 365

Asn Leu Ala Glu Lys Ile Pro Glu Ile Gln Tyr Ser Ile Val Ser Asp
    370                 375                 380

Arg Val Ser Lys Val Thr Phe Ser Asn Leu Lys Ala Thr Arg Pro Arg
385                 390                 395                 400

Gly Lys Phe Thr Tyr Asp Ala Val Tyr Cys Cys Asn Glu Gln Ala Cys
                405                 410                 415

His His Arg Tyr Ala Glu Leu Tyr Val Ile Asp Val Asn Ile Asn Ile
            420                 425                 430

Ser Cys Glu Thr Asp Gly Tyr Leu Thr Lys Met Thr Cys Arg Trp Ser
        435                 440                 445

Pro Ser Thr Ile Gln Ser Leu Val Gly Ser Thr Val Gln Leu Arg Tyr
    450                 455                 460

His Arg Arg Ser Leu Tyr Cys Pro Asp Ser Pro Ser Ile His Pro Thr
465                 470                 475                 480
```

Ser Glu Pro Lys Asn Cys Val Leu Gln Arg Asp Gly Phe Tyr Glu Cys
485 490 495

Val Phe Gln Pro Ile Phe Leu Leu Ser Gly Tyr Thr Met Trp Ile Arg
500 505 510

Ile Asn His Ser Leu Gly Ser Leu Asp Ser Pro Pro Thr Cys Val Leu
515 520 525

Pro Asp Ser Val Val Lys Pro Leu Pro Pro Ser Asn Val Lys Ala Glu
530 535 540

Ile Thr Val Asn Thr Gly Leu Leu Lys Val Ser Trp Glu Lys Pro Val
545 550 555 560

Phe Pro Glu Asn Asn Leu Gln Phe Gln Ile Arg Tyr Gly Leu Ser Gly
565 570 575

Lys Glu Ile Gln Trp Lys Thr His Glu Val Phe Asp Ala Lys Ser Lys
580 585 590

71

Ser Ala Ser Leu Leu Val Ser Asp Leu Cys Ala Val Tyr Val Val Gln
595 600 605

Val Arg Cys Arg Arg Leu Asp Gly Leu Gly Tyr Trp Ser Asn Trp Ser
610 615 620

Ser Pro Ala Tyr Thr Leu Val Met Asp Val Lys Val Pro Met Arg Gly
625 630 635 640

Pro Glu Phe Trp Arg Lys Met Asp Gly Asp Val Thr Lys Lys Glu Arg
645 650 655

Asn Val Thr Leu Leu Trp Lys Pro Leu Thr Lys Asn Asp Ser Leu Cys
660 665 670

Ser Val Arg Arg Tyr Val Val Lys His Arg Thr Ala His Asn Gly Thr
675 680 685

Trp Ser Glu Asp Val Gly Asn Arg Thr Asn Leu Thr Phe Leu Trp Thr
690 695 700

Glu Pro Ala His Thr Val Thr Val Leu Ala Val Asn Ser Leu Gly Ala
705 710 715 720

Ser Leu Val Asn Phe Asn Leu Thr Phe Ser Trp Pro Met Ser Lys Val

725 730 735

Ser Ala Val Glu Ser Leu Ser Ala Tyr Pro Leu Ser Ser Ser Cys Val
740 745 750

Ile Leu Ser Trp Thr Leu Ser Pro Asp Asp Tyr Ser Leu Leu Tyr Leu
755 760 765

Val Ile Glu Trp Lys Ile Leu Asn Glu Asp Asp Gly Met Lys Trp Leu
770 775 780

Arg Ile Pro Ser Asn Val Lys Lys Phe Tyr Ile His Asp Asn Phe Ile
785 790 795 800

Pro Ile Glu Lys Tyr Gln Phe Ser Leu Tyr Pro Val Phe Met Glu Gly
805 810 815

Val Gly Lys Pro Lys Ile Ile Asn Gly Phe Thr Lys Asp Ala Ile Asp
820 825 830

Lys Gln Gln Asn Asp Ala Gly Leu Tyr Val Ile Val Pro Ile Ile Ile
835 840 845

Ser Ser Cys Val Leu Leu Leu Gly Thr Leu Leu Ile Ser His Gln Arg
850 855 860

Met Lys Lys Leu Phe Trp Asp Asp Val Pro Asn Pro Lys Asn Cys Ser
865 870 875 880

Trp Ala Gln Gly Leu Asn Phe Gln Lys Arg Thr Asp Thr Leu
885 890

<210> 94

<211> 1162

<212> PRT

<213> Mus musculus

<400> 94

Met Met Cys Gln Lys Phe Tyr Val Val Leu Leu His Trp Glu Phe Leu
1 5 10 15

Tyr Val Ile Ala Ala Leu Asn Leu Ala Tyr Pro Ile Ser Pro Trp Lys
20 25 30

Phe Lys Leu Phe Cys Gly Pro Pro Asn Thr Thr Asp Asp Ser Phe Leu
35 40 45

Ser Pro Ala Gly Ala Pro Asn Asn Ala Ser Ala Leu Lys Gly Ala Ser
50 55 60

Glu Ala Ile Val Glu Ala Lys Phe Asn Ser Ser Gly Ile Tyr Val Pro
65 70 75 80

Glu Leu Ser Lys Thr Val Phe His Cys Cys Phe Gly Asn Glu Gln Gly
85 90 95

Gln Asn Cys Ser Ala Leu Thr Asp Asn Thr Glu Gly Lys Thr Leu Ala
100 105 110

Ser Val Val Lys Ala Ser Val Phe Arg Gln Leu Gly Val Asn Trp Asp
115 120 125

71

Ile Glu Cys Trp Met Lys Gly Asp Leu Thr Leu Phe Ile Cys His Met
130 135 140

Glu Pro Leu Pro Lys Asn Pro Phe Lys Asn Tyr Asp Ser Lys Val His
145 150 155 160

Leu Leu Tyr Asp Leu Pro Glu Val Ile Asp Asp Ser Pro Leu Pro Pro
165 170 175

Leu Lys Asp Ser Phe Gln Thr Val Gln Cys Asn Cys Ser Leu Arg Gly
180 185 190

Cys Glu Cys His Val Pro Val Pro Arg Ala Lys Leu Asn Tyr Ala Leu
195 200 205

Leu Met Tyr Leu Glu Ile Thr Ser Ala Gly Val Ser Phe Gln Ser Pro
210 215 220

Leu Met Ser Leu Gln Pro Met Leu Val Val Lys Pro Asp Pro Pro Leu
225 230 235 240

Gly Leu His Met Glu Val Thr Asp Asp Gly Asn Leu Lys Ile Ser Trp
245 250 255

Asp Ser Gln Thr Met Ala Pro Phe Pro Leu Gln Tyr Gln Val Lys Tyr
260 265 270

```
Leu Glu Asn Ser Thr Ile Val Arg Glu Ala Ala Glu Ile Val Ser Ala
        275                 280                 285

Thr Ser Leu Leu Val Asp Ser Val Leu Pro Gly Ser Ser Tyr Glu Val
    290                 295                 300

Gln Val Arg Ser Lys Arg Leu Asp Gly Ser Gly Val Trp Ser Asp Trp
305                 310                 315                 320

Ser Ser Pro Gln Val Phe Thr Thr Gln Asp Val Val Tyr Phe Pro Pro
                325                 330                 335

Lys Ile Leu Thr Ser Val Gly Ser Asn Ala Ser Phe His Cys Ile Tyr
            340                 345                 350

Lys Asn Glu Asn Gln Ile Ile Ser Ser Lys Gln Ile Val Trp Trp Arg
        355                 360                 365

Asn Leu Ala Glu Lys Ile Pro Glu Ile Gln Tyr Ser Ile Val Ser Asp
    370                 375                 380

Arg Val Ser Lys Val Thr Phe Ser Asn Leu Lys Ala Thr Arg Pro Arg
385                 390                 395                 400

Gly Lys Phe Thr Tyr Asp Ala Val Tyr Cys Cys Asn Glu Gln Ala Cys
                405                 410                 415

His His Arg Tyr Ala Glu Leu Tyr Val Ile Asp Val Asn Ile Asn Ile
            420                 425                 430

Ser Cys Glu Thr Asp Gly Tyr Leu Thr Lys Met Thr Cys Arg Trp Ser
        435                 440                 445

Pro Ser Thr Ile Gln Ser Leu Val Gly Ser Thr Val Gln Leu Arg Tyr
    450                 455                 460

His Arg Arg Ser Leu Tyr Cys Pro Asp Ser Pro Ser Ile His Pro Thr
465                 470                 475                 480

Ser Glu Pro Lys Asn Cys Val Leu Gln Arg Asp Gly Phe Tyr Glu Cys
                485                 490                 495

Val Phe Gln Pro Ile Phe Leu Leu Ser Gly Tyr Thr Met Trp Ile Arg
            500                 505                 510
```

Ile Asn His Ser Leu Gly Ser Leu Asp Ser Pro Pro Thr Cys Val Leu
515 520 525

Pro Asp Ser Val Val Lys Pro Leu Pro Pro Ser Asn Val Lys Ala Glu
530 535 540

Ile Thr Val Asn Thr Gly Leu Leu Lys Val Ser Trp Glu Lys Pro Val
545 550 555 560

Phe Pro Glu Asn Asn Leu Gln Phe Gln Ile Arg Tyr Gly Leu Ser Gly
565 570 575

Lys Glu Ile Gln Trp Lys Thr His Glu Val Phe Asp Ala Lys Ser Lys
580 585 590

Ser Ala Ser Leu Leu Val Ser Asp Leu Cys Ala Val Tyr Val Val Gln
595 600 605

Val Arg Cys Arg Arg Leu Asp Gly Leu Gly Tyr Trp Ser Asn Trp Ser
610 615 620

Ser Pro Ala Tyr Thr Leu Val Met Asp Val Lys Val Pro Met Arg Gly
625 630 635 640

Pro Glu Phe Trp Arg Lys Met Asp Gly Asp Val Thr Lys Lys Glu Arg
645 650 655

Asn Val Thr Leu Leu Trp Lys Pro Leu Thr Lys Asn Asp Ser Leu Cys
660 665 670

Ser Val Arg Arg Tyr Val Val Lys His Arg Thr Ala His Asn Gly Thr
675 680 685

Trp Ser Glu Asp Val Gly Asn Arg Thr Asn Leu Thr Phe Leu Trp Thr
690 695 700

Glu Pro Ala His Thr Val Thr Val Leu Ala Val Asn Ser Leu Gly Ala
705 710 715 720

Ser Leu Val Asn Phe Asn Leu Thr Phe Ser Trp Pro Met Ser Lys Val
725 730 735

Ser Ala Val Glu Ser Leu Ser Ala Tyr Pro Leu Ser Ser Ser Cys Val
740 745 750

Ile Leu Ser Trp Thr Leu Ser Pro Asp Asp Tyr Ser Leu Leu Tyr Leu

```
        755                 760                 765

Val Ile Glu Trp Lys Ile Leu Asn Glu Asp Asp Gly Met Lys Trp Leu
    770                 775                 780

Arg Ile Pro Ser Asn Val Lys Lys Phe Tyr Ile His Asp Asn Phe Ile
785                 790                 795                 800

Pro Ile Glu Lys Tyr Gln Phe Ser Leu Tyr Pro Val Phe Met Glu Gly
                805                 810                 815

Val Gly Lys Pro Lys Ile Ile Asn Gly Phe Thr Lys Asp Ala Ile Asp
            820                 825                 830

Lys Gln Gln Asn Asp Ala Gly Leu Tyr Val Ile Val Pro Ile Ile Ile
        835                 840                 845

Ser Ser Cys Val Leu Leu Leu Gly Thr Leu Leu Ile Ser His Gln Arg
    850                 855                 860

Met Lys Lys Leu Phe Trp Asp Asp Val Pro Asn Pro Lys Asn Cys Ser
865                 870                 875                 880

Trp Ala Gln Gly Leu Asn Phe Gln Lys Pro Glu Thr Phe Glu Gln Leu
                885                 890                 895

Phe Thr Lys His Ala Glu Ser Val Ile Phe Gly Pro Leu Leu Leu Glu
            900                 905                 910

Pro Glu Pro Ile Ser Glu Glu Ile Ser Val Asp Thr Ala Trp Lys Asn
        915                 920                 925

Lys Asp Glu Met Val Pro Ala Ala Met Val Ser Leu Leu Leu Thr Thr
    930                 935                 940

Pro Asp Pro Glu Ser Ser Ser Ile Cys Ile Ser Asp Gln Cys Asn Ser
945                 950                 955                 960

Ala Asn Phe Ser Gly Ser Gln Ser Thr Gln Val Thr Cys Glu Asp Glu
                965                 970                 975

Cys Gln Arg Gln Pro Ser Val Lys Tyr Ala Thr Leu Val Ser Asn Asp
            980                 985                 990

Lys Leu Val Glu Thr Asp Glu Glu  Gln Gly Phe Ile His  Ser Pro Val
        995                 1000                1005
```

Ser Asn Cys Ile Ser Ser Asn His Ser Pro Leu Arg Gln Ser Phe
1010 1015 1020

Ser Ser Ser Ser Trp Glu Thr Glu Ala Gln Thr Phe Phe Leu Leu
1025 1030 1035

Ser Asp Gln Gln Pro Thr Met Ile Ser Pro Gln Leu Ser Phe Ser
1040 1045 1050

Gly Leu Asp Glu Leu Leu Glu Leu Glu Gly Ser Phe Pro Glu Glu
1055 1060 1065

Asn His Arg Glu Lys Ser Val Cys Tyr Leu Gly Val Thr Ser Val
1070 1075 1080

Asn Arg Arg Glu Ser Gly Val Leu Leu Thr Gly Glu Ala Gly Ile
1085 1090 1095

Leu Cys Thr Phe Pro Ala Gln Cys Leu Phe Ser Asp Ile Arg Ile
1100 1105 1110

71

Leu Gln Glu Arg Cys Ser His Phe Val Glu Asn Asn Leu Ser Leu
1115 1120 1125

Gly Thr Ser Gly Glu Asn Phe Val Pro Tyr Met Pro Gln Phe Gln
1130 1135 1140

Thr Cys Ser Thr His Ser His Lys Ile Met Glu Asn Lys Met Cys
1145 1150 1155

Asp Leu Thr Val
1160

<210> 95

<211> 892

<212> PRT

<213> Mus musculus

<400> 95

Met Met Cys Gln Lys Phe Tyr Val Val Leu Leu His Trp Glu Phe Leu
1 5 10 15

Tyr Val Ile Ala Ala Leu Asn Leu Ala Tyr Pro Ile Ser Pro Trp Lys
20 25 30

Phe Lys Leu Phe Cys Gly Pro Pro Asn Thr Thr Asp Asp Ser Phe Leu
35 40 45

Ser Pro Ala Gly Ala Pro Asn Asn Ala Ser Ala Leu Lys Gly Ala Ser
50 55 60

Glu Ala Ile Val Glu Ala Lys Phe Asn Ser Ser Gly Ile Tyr Val Pro
65 70 75 80

Glu Leu Ser Lys Thr Val Phe His Cys Cys Phe Gly Asn Glu Gln Gly
85 90 95

Gln Asn Cys Ser Ala Leu Thr Asp Asn Thr Glu Gly Lys Thr Leu Ala
100 105 110

Ser Val Val Lys Ala Ser Val Phe Arg Gln Leu Gly Val Asn Trp Asp
115 120 125

71

Ile Glu Cys Trp Met Lys Gly Asp Leu Thr Leu Phe Ile Cys His Met
130 135 140

Glu Pro Leu Pro Lys Asn Pro Phe Lys Asn Tyr Asp Ser Lys Val His
145 150 155 160

Leu Leu Tyr Asp Leu Pro Glu Val Ile Asp Asp Ser Pro Leu Pro Pro
165 170 175

Leu Lys Asp Ser Phe Gln Thr Val Gln Cys Asn Cys Ser Leu Arg Gly
180 185 190

Cys Glu Cys His Val Pro Val Pro Arg Ala Lys Leu Asn Tyr Ala Leu
195 200 205

Leu Met Tyr Leu Glu Ile Thr Ser Ala Gly Val Ser Phe Gln Ser Pro
210 215 220

Leu Met Ser Leu Gln Pro Met Leu Val Val Lys Pro Asp Pro Pro Leu
225 230 235 240

Gly Leu His Met Glu Val Thr Asp Asp Gly Asn Leu Lys Ile Ser Trp
245 250 255

Asp Ser Gln Thr Met Ala Pro Phe Pro Leu Gln Tyr Gln Val Lys Tyr
260 265 270

Leu Glu Asn Ser Thr Ile Val Arg Glu Ala Ala Glu Ile Val Ser Ala
275 280 285

Thr Ser Leu Leu Val Asp Ser Val Leu Pro Gly Ser Ser Tyr Glu Val
290 295 300

Gln Val Arg Ser Lys Arg Leu Asp Gly Ser Gly Val Trp Ser Asp Trp
305 310 315 320

Ser Ser Pro Gln Val Phe Thr Thr Gln Asp Val Val Tyr Phe Pro Pro
325 330 335

Lys Ile Leu Thr Ser Val Gly Ser Asn Ala Ser Phe His Cys Ile Tyr
340 345 350

Lys Asn Glu Asn Gln Ile Ile Ser Ser Lys Gln Ile Val Trp Trp Arg
355 360 365

Asn Leu Ala Glu Lys Ile Pro Glu Ile Gln Tyr Ser Ile Val Ser Asp
370 375 380

71

Arg Val Ser Lys Val Thr Phe Ser Asn Leu Lys Ala Thr Arg Pro Arg
385 390 395 400

Gly Lys Phe Thr Tyr Asp Ala Val Tyr Cys Cys Asn Glu Gln Ala Cys
405 410 415

His His Arg Tyr Ala Glu Leu Tyr Val Ile Asp Val Asn Ile Asn Ile
420 425 430

Ser Cys Glu Thr Asp Gly Tyr Leu Thr Lys Met Thr Cys Arg Trp Ser
435 440 445

Pro Ser Thr Ile Gln Ser Leu Val Gly Ser Thr Val Gln Leu Arg Tyr
450 455 460

His Arg Arg Ser Leu Tyr Cys Pro Asp Ser Pro Ser Ile His Pro Thr
465 470 475 480

Ser Glu Pro Lys Asn Cys Val Leu Gln Arg Asp Gly Phe Tyr Glu Cys
485 490 495

Val Phe Gln Pro Ile Phe Leu Leu Ser Gly Tyr Thr Met Trp Ile Arg

500 505 510

Ile Asn His Ser Leu Gly Ser Leu Asp Ser Pro Pro Thr Cys Val Leu
515 520 525

Pro Asp Ser Val Val Lys Pro Leu Pro Pro Ser Asn Val Lys Ala Glu
530 535 540

Ile Thr Val Asn Thr Gly Leu Leu Lys Val Ser Trp Glu Lys Pro Val
545 550 555 560

Phe Pro Glu Asn Asn Leu Gln Phe Gln Ile Arg Tyr Gly Leu Ser Gly
565 570 575

Lys Glu Ile Gln Trp Lys Thr His Glu Val Phe Asp Ala Lys Ser Lys
580 585 590

Ser Ala Ser Leu Leu Val Ser Asp Leu Cys Ala Val Tyr Val Val Gln
595 600 605

Val Arg Cys Arg Arg Leu Asp Gly Leu Gly Tyr Trp Ser Asn Trp Ser
610 615 620

Ser Pro Ala Tyr Thr Leu Val Met Asp Val Lys Val Pro Met Arg Gly
625 630 635 640

Pro Glu Phe Trp Arg Lys Met Asp Gly Asp Val Thr Lys Lys Glu Arg
645 650 655

Asn Val Thr Leu Leu Trp Lys Pro Leu Thr Lys Asn Asp Ser Leu Cys
660 665 670

Ser Val Arg Arg Tyr Val Val Lys His Arg Thr Ala His Asn Gly Thr
675 680 685

Trp Ser Glu Asp Val Gly Asn Arg Thr Asn Leu Thr Phe Leu Trp Thr
690 695 700

Glu Pro Ala His Thr Val Thr Val Leu Ala Val Asn Ser Leu Gly Ala
705 710 715 720

Ser Leu Val Asn Phe Asn Leu Thr Phe Ser Trp Pro Met Ser Lys Val
725 730 735

Ser Ala Val Glu Ser Leu Ser Ala Tyr Pro Leu Ser Ser Ser Cys Val
740 745 750

```
Ile Leu Ser Trp Thr Leu Ser Pro Asp Asp Tyr Ser Leu Leu Tyr Leu
        755                 760                 765

Val Ile Glu Trp Lys Ile Leu Asn Glu Asp Asp Gly Met Lys Trp Leu
    770                 775                 780

Arg Ile Pro Ser Asn Val Lys Lys Phe Tyr Ile His Asp Asn Phe Ile
785                 790                 795                 800

Pro Ile Glu Lys Tyr Gln Phe Ser Leu Tyr Pro Val Phe Met Glu Gly
                805                 810                 815

Val Gly Lys Pro Lys Ile Ile Asn Gly Phe Thr Lys Asp Ala Ile Asp
            820                 825                 830

Lys Gln Gln Asn Asp Ala Gly Leu Tyr Val Ile Val Pro Ile Ile Ile
        835                 840                 845

Ser Ser Cys Val Leu Leu Leu Gly Thr Leu Leu Ile Ser His Gln Arg
    850                 855                 860

Met Lys Lys Leu Phe Trp Asp Asp Val Pro Asn Pro Lys Asn Cys Ser
865                 870                 875                 880

Trp Ala Gln Gly Leu Asn Phe Gln Lys Val Thr Val
                885                 890
```

71

<210> 96

<211> 231

<212> PRT

<213> Mus musculus

<400> 96

```
Pro Leu Thr Lys Asn Asp Ser Leu Cys Ser Val Arg Arg Tyr Val Val
1               5                   10                  15

Lys His Arg Thr Ala His Asn Gly Thr Trp Ser Glu Asp Val Gly Asn
            20                  25                  30

Arg Thr Asn Leu Thr Phe Leu Trp Thr Glu Pro Ala His Thr Val Thr
        35                  40                  45
```

Val Leu Ala Val Asn Ser Leu Gly Ala Ser Leu Val Asn Phe Asn Leu
50 55 60

Thr Phe Ser Trp Pro Met Ser Lys Val Ser Ala Val Glu Ser Leu Ser
65 70 75 80

Ala Tyr Pro Leu Ser Ser Ser Cys Val Ile Leu Ser Trp Thr Leu Ser
85 90 95

Pro Asp Asp Tyr Ser Leu Leu Tyr Leu Val Ile Glu Trp Lys Ile Leu
100 105 110

Asn Glu Asp Asp Gly Met Lys Trp Leu Arg Ile Pro Ser Asn Val Lys
115 120 125

Lys Phe Tyr Ile His Asp Asn Phe Ile Pro Ile Glu Lys Tyr Gln Phe
130 135 140

Ser Leu Tyr Pro Val Phe Met Glu Gly Val Gly Lys Pro Lys Ile Ile
145 150 155 160

Asn Gly Phe Thr Lys Asp Ala Ile Asp Lys Gln Gln Asn Asp Ala Gly
165 170 175

71

Leu Tyr Val Ile Val Pro Ile Ile Ile Ser Ser Cys Val Leu Leu Leu
180 185 190

Gly Thr Leu Leu Ile Ser His Gln Arg Met Lys Lys Leu Phe Trp Asp
195 200 205

Asp Val Pro Asn Pro Lys Asn Cys Ser Trp Ala Gln Gly Leu Asn Phe
210 215 220

Gln Lys Arg Thr Asp Thr Leu
225 230

<210> 97

<211> 499

<212> PRT

<213> Mus musculus

<400> 97

```
Pro Leu Thr Lys Asn Asp Ser Leu Cys Ser Val Arg Arg Tyr Val Val
1               5                  10                  15

Lys His Arg Thr Ala His Asn Gly Thr Trp Ser Glu Asp Val Gly Asn
            20                  25                  30

Arg Thr Asn Leu Thr Phe Leu Trp Thr Glu Pro Ala His Thr Val Thr
        35                  40                  45

Val Leu Ala Val Asn Ser Leu Gly Ala Ser Leu Val Asn Phe Asn Leu
    50                  55                  60

Thr Phe Ser Trp Pro Met Ser Lys Val Ser Ala Val Glu Ser Leu Ser
65                  70                  75                  80

Ala Tyr Pro Leu Ser Ser Ser Cys Val Ile Leu Ser Trp Thr Leu Ser
                85                  90                  95

Pro Asp Asp Tyr Ser Leu Leu Tyr Leu Val Ile Glu Trp Lys Ile Leu
            100                 105                 110

Asn Glu Asp Asp Gly Met Lys Trp Leu Arg Ile Pro Ser Asn Val Lys
        115                 120                 125

Lys Phe Tyr Ile His Asp Asn Phe Ile Pro Ile Glu Lys Tyr Gln Phe
    130                 135                 140

Ser Leu Tyr Pro Val Phe Met Glu Gly Val Gly Lys Pro Lys Ile Ile
145                 150                 155                 160

Asn Gly Phe Thr Lys Asp Ala Ile Asp Lys Gln Gln Asn Asp Ala Gly
                165                 170                 175

Leu Tyr Val Ile Val Pro Ile Ile Ile Ser Ser Cys Val Leu Leu Leu
            180                 185                 190

Gly Thr Leu Leu Ile Ser His Gln Arg Met Lys Lys Leu Phe Trp Asp
        195                 200                 205

Asp Val Pro Asn Pro Lys Asn Cys Ser Trp Ala Gln Gly Leu Asn Phe
    210                 215                 220

Gln Lys Pro Glu Thr Phe Glu Gln Leu Phe Thr Lys His Ala Glu Ser
225                 230                 235                 240

Val Ile Phe Gly Pro Leu Leu Leu Glu Pro Glu Pro Ile Ser Glu Glu
```

245 250 255

Ile Ser Val Asp Thr Ala Trp Lys Asn Lys Asp Glu Met Val Pro Ala
260 265 270

Ala Met Val Ser Leu Leu Leu Thr Thr Pro Asp Pro Glu Ser Ser Ser
275 280 285

Ile Cys Ile Ser Asp Gln Cys Asn Ser Ala Asn Phe Ser Gly Ser Gln
290 295 300

Ser Thr Gln Val Thr Cys Glu Asp Glu Cys Gln Arg Gln Pro Ser Val
305 310 315 320

Lys Tyr Ala Thr Leu Val Ser Asn Asp Lys Leu Val Glu Thr Asp Glu
325 330 335

Glu Gln Gly Phe Ile His Ser Pro Val Ser Asn Cys Ile Ser Ser Asn
340 345 350

His Ser Pro Leu Arg Gln Ser Phe Ser Ser Ser Ser Trp Glu Thr Glu
355 360 365

71

Ala Gln Thr Phe Phe Leu Leu Ser Asp Gln Gln Pro Thr Met Ile Ser
370 375 380

Pro Gln Leu Ser Phe Ser Gly Leu Asp Glu Leu Leu Glu Leu Glu Gly
385 390 395 400

Ser Phe Pro Glu Glu Asn His Arg Glu Lys Ser Val Cys Tyr Leu Gly
405 410 415

Val Thr Ser Val Asn Arg Arg Glu Ser Gly Val Leu Leu Thr Gly Glu
420 425 430

Ala Gly Ile Leu Cys Thr Phe Pro Ala Gln Cys Leu Phe Ser Asp Ile
435 440 445

Arg Ile Leu Gln Glu Arg Cys Ser His Phe Val Glu Asn Asn Leu Ser
450 455 460

Leu Gly Thr Ser Gly Glu Asn Phe Val Pro Tyr Met Pro Gln Phe Gln
465 470 475 480

Thr Cys Ser Thr His Ser His Lys Ile Met Glu Asn Lys Met Cys Asp
485 490 495

Leu Thr Val

<210> 98

<211> 229

<212> PRT

<213> Mus musculus

<400> 98

```
Pro Leu Thr Lys Asn Asp Ser Leu Cys Ser Val Arg Arg Tyr Val Val
1               5                  10                  15

Lys His Arg Thr Ala His Asn Gly Thr Trp Ser Glu Asp Val Gly Asn
            20                  25                  30

Arg Thr Asn Leu Thr Phe Leu Trp Thr Glu Pro Ala His Thr Val Thr
        35                  40                  45

Val Leu Ala Val Asn Ser Leu Gly Ala Ser Leu Val Asn Phe Asn Leu
    50                  55                  60

Thr Phe Ser Trp Pro Met Ser Lys Val Ser Ala Val Glu Ser Leu Ser
65                  70                  75                  80

Ala Tyr Pro Leu Ser Ser Ser Cys Val Ile Leu Ser Trp Thr Leu Ser
                85                  90                  95

Pro Asp Asp Tyr Ser Leu Leu Tyr Leu Val Ile Glu Trp Lys Ile Leu
            100                 105                 110

Asn Glu Asp Asp Gly Met Lys Trp Leu Arg Ile Pro Ser Asn Val Lys
        115                 120                 125

Lys Phe Tyr Ile His Asp Asn Phe Ile Pro Ile Glu Lys Tyr Gln Phe
    130                 135                 140

Ser Leu Tyr Pro Val Phe Met Glu Gly Val Gly Lys Pro Lys Ile Ile
145                 150                 155                 160

Asn Gly Phe Thr Lys Asp Ala Ile Asp Lys Gln Gln Asn Asp Ala Gly
                165                 170                 175
```

Leu Tyr Val Ile Val Pro Ile Ile Ile Ser Ser Cys Val Leu Leu Leu
180 185 190

Gly Thr Leu Leu Ile Ser His Gln Arg Met Lys Lys Leu Phe Trp Asp
195 200 205

Asp Val Pro Asn Pro Lys Asn Cys Ser Trp Ala Gln Gly Leu Asn Phe
210 215 220

Gln Lys Val Thr Val
225

<210> 99

<211> 237

<212> PRT

<213> Mus musculus

<400> 99

71

Pro Leu Thr Lys Asn Asp Ser Leu Cys Ser Val Arg Arg Tyr Val Val
1 5 10 15

Lys His Arg Thr Ala His Asn Gly Thr Trp Ser Glu Asp Val Gly Asn
20 25 30

Arg Thr Asn Leu Thr Phe Leu Trp Thr Glu Pro Ala His Thr Val Thr
35 40 45

Val Leu Ala Val Asn Ser Leu Gly Ala Ser Leu Val Asn Phe Asn Leu
50 55 60

Thr Phe Ser Trp Pro Met Ser Lys Val Ser Ala Val Glu Ser Leu Ser
65 70 75 80

Ala Tyr Pro Leu Ser Ser Ser Cys Val Ile Leu Ser Trp Thr Leu Ser
85 90 95

Pro Asp Asp Tyr Ser Leu Leu Tyr Leu Val Ile Glu Trp Lys Ile Leu
100 105 110

Asn Glu Asp Asp Gly Met Lys Trp Leu Arg Ile Pro Ser Asn Val Lys
115 120 125

Lys Phe Tyr Ile His Asp Asn Phe Ile Pro Ile Glu Lys Tyr Gln Phe
130 135 140

Ser Leu Tyr Pro Val Phe Met Glu Gly Val Gly Lys Pro Lys Ile Ile
145 150 155 160

Asn Gly Phe Thr Lys Asp Ala Ile Asp Lys Gln Gln Asn Asp Ala Gly
165 170 175

Leu Tyr Val Ile Val Pro Ile Ile Ile Ser Ser Cys Val Leu Leu Leu
180 185 190

Gly Thr Leu Leu Ile Ser His Gln Arg Met Lys Lys Leu Phe Trp Asp
195 200 205

Asp Val Pro Asn Pro Lys Asn Cys Ser Trp Ala Gln Gly Leu Asn Phe
210 215 220

Gln Lys Asp Ile Ser Leu His Glu Val Phe Ile Phe Arg
225 230 235

<210> 100

<211> 162

71 <212> PRT

<213> Mus musculus

<400> 100

Met Ser Lys Val Ser Ala Val Glu Ser Leu Ser Ala Tyr Pro Leu Ser
1 5 10 15

Ser Ser Cys Val Ile Leu Ser Trp Thr Leu Ser Pro Asp Asp Tyr Ser
20 25 30

Leu Leu Tyr Leu Val Ile Glu Trp Lys Ile Leu Asn Glu Asp Asp Gly
35 40 45

Met Lys Trp Leu Arg Ile Pro Ser Asn Val Lys Lys Phe Tyr Ile His
50 55 60

Asp Asn Phe Ile Pro Ile Glu Lys Tyr Gln Phe Ser Leu Tyr Pro Val
65 70 75 80

Phe Met Glu Gly Val Gly Lys Pro Lys Ile Ile Asn Gly Phe Thr Lys

85 90 95

Asp Ala Ile Asp Lys Gln Gln Asn Asp Ala Gly Leu Tyr Val Ile Val
100 105 110

Pro Ile Ile Ile Ser Ser Cys Val Leu Leu Leu Gly Thr Leu Leu Ile
115 120 125

Ser His Gln Arg Met Lys Lys Leu Phe Trp Asp Asp Val Pro Asn Pro
130 135 140

Lys Asn Cys Ser Trp Ala Gln Gly Leu Asn Phe Gln Lys Arg Thr Asp
145 150 155 160

Thr Leu

<210> 101

<211> 430

<212> PRT

<213> Mus musculus

71

<400> 101

Met Ser Lys Val Ser Ala Val Glu Ser Leu Ser Ala Tyr Pro Leu Ser
1 5 10 15

Ser Ser Cys Val Ile Leu Ser Trp Thr Leu Ser Pro Asp Asp Tyr Ser
20 25 30

Leu Leu Tyr Leu Val Ile Glu Trp Lys Ile Leu Asn Glu Asp Asp Gly
35 40 45

Met Lys Trp Leu Arg Ile Pro Ser Asn Val Lys Lys Phe Tyr Ile His
50 55 60

Asp Asn Phe Ile Pro Ile Glu Lys Tyr Gln Phe Ser Leu Tyr Pro Val
65 70 75 80

Phe Met Glu Gly Val Gly Lys Pro Lys Ile Ile Asn Gly Phe Thr Lys
85 90 95

Asp Ala Ile Asp Lys Gln Gln Asn Asp Ala Gly Leu Tyr Val Ile Val
100 105 110

```
Pro Ile Ile Ile Ser Ser Cys Val Leu Leu Leu Gly Thr Leu Leu Ile
        115                 120                 125

Ser His Gln Arg Met Lys Lys Leu Phe Trp Asp Asp Val Pro Asn Pro
    130                 135                 140

Lys Asn Cys Ser Trp Ala Gln Gly Leu Asn Phe Gln Lys Pro Glu Thr
145                 150                 155                 160

Phe Glu Gln Leu Phe Thr Lys His Ala Glu Ser Val Ile Phe Gly Pro
                165                 170                 175

Leu Leu Leu Glu Pro Glu Pro Ile Ser Glu Glu Ile Ser Val Asp Thr
            180                 185                 190

Ala Trp Lys Asn Lys Asp Glu Met Val Pro Ala Ala Met Val Ser Leu
        195                 200                 205

Leu Leu Thr Thr Pro Asp Pro Glu Ser Ser Ser Ile Cys Ile Ser Asp
    210                 215                 220

Gln Cys Asn Ser Ala Asn Phe Ser Gly Ser Gln Ser Thr Gln Val Thr
225                 230                 235                 240

Cys Glu Asp Glu Cys Gln Arg Gln Pro Ser Val Lys Tyr Ala Thr Leu
                245                 250                 255

Val Ser Asn Asp Lys Leu Val Glu Thr Asp Glu Glu Gln Gly Phe Ile
            260                 265                 270

His Ser Pro Val Ser Asn Cys Ile Ser Ser Asn His Ser Pro Leu Arg
        275                 280                 285

Gln Ser Phe Ser Ser Ser Ser Trp Glu Thr Glu Ala Gln Thr Phe Phe
    290                 295                 300

Leu Leu Ser Asp Gln Gln Pro Thr Met Ile Ser Pro Gln Leu Ser Phe
305                 310                 315                 320

Ser Gly Leu Asp Glu Leu Leu Glu Leu Glu Gly Ser Phe Pro Glu Glu
                325                 330                 335

Asn His Arg Glu Lys Ser Val Cys Tyr Leu Gly Val Thr Ser Val Asn
            340                 345                 350
```

```
Arg Arg Glu Ser Gly Val Leu Leu Thr Gly Glu Ala Gly Ile Leu Cys
        355                 360                 365

Thr Phe Pro Ala Gln Cys Leu Phe Ser Asp Ile Arg Ile Leu Gln Glu
    370                 375                 380

Arg Cys Ser His Phe Val Glu Asn Asn Leu Ser Leu Gly Thr Ser Gly
385                 390                 395                 400

Glu Asn Phe Val Pro Tyr Met Pro Gln Phe Gln Thr Cys Ser Thr His
                405                 410                 415

Ser His Lys Ile Met Glu Asn Lys Met Cys Asp Leu Thr Val
            420                 425                 430
```

<210> 102

<211> 160

<212> PRT

<213> Mus musculus

<400> 102

71

```
Met Ser Lys Val Ser Ala Val Glu Ser Leu Ser Ala Tyr Pro Leu Ser
1               5                   10                  15

Ser Ser Cys Val Ile Leu Ser Trp Thr Leu Ser Pro Asp Asp Tyr Ser
            20                  25                  30

Leu Leu Tyr Leu Val Ile Glu Trp Lys Ile Leu Asn Glu Asp Asp Gly
        35                  40                  45

Met Lys Trp Leu Arg Ile Pro Ser Asn Val Lys Lys Phe Tyr Ile His
    50                  55                  60

Asp Asn Phe Ile Pro Ile Glu Lys Tyr Gln Phe Ser Leu Tyr Pro Val
65                  70                  75                  80

Phe Met Glu Gly Val Gly Lys Pro Lys Ile Ile Asn Gly Phe Thr Lys
                85                  90                  95

Asp Ala Ile Asp Lys Gln Gln Asn Asp Ala Gly Leu Tyr Val Ile Val
            100                 105                 110
```

Pro Ile Ile Ile Ser Ser Cys Val Leu Leu Leu Gly Thr Leu Leu Ile
115 120 125

Ser His Gln Arg Met Lys Lys Leu Phe Trp Asp Asp Val Pro Asn Pro
130 135 140

Lys Asn Cys Ser Trp Ala Gln Gly Leu Asn Phe Gln Lys Val Thr Val
145 150 155 160

<210> 103

<211> 168

<212> PRT

<213> Mus musculus

<400> 103

Met Ser Lys Val Ser Ala Val Glu Ser Leu Ser Ala Tyr Pro Leu Ser
1 5 10 15

Ser Ser Cys Val Ile Leu Ser Trp Thr Leu Ser Pro Asp Asp Tyr Ser
20 25 30

71

Leu Leu Tyr Leu Val Ile Glu Trp Lys Ile Leu Asn Glu Asp Asp Gly
35 40 45

Met Lys Trp Leu Arg Ile Pro Ser Asn Val Lys Lys Phe Tyr Ile His
50 55 60

Asp Asn Phe Ile Pro Ile Glu Lys Tyr Gln Phe Ser Leu Tyr Pro Val
65 70 75 80

Phe Met Glu Gly Val Gly Lys Pro Lys Ile Ile Asn Gly Phe Thr Lys
85 90 95

Asp Ala Ile Asp Lys Gln Gln Asn Asp Ala Gly Leu Tyr Val Ile Val
100 105 110

Pro Ile Ile Ile Ser Ser Cys Val Leu Leu Leu Gly Thr Leu Leu Ile
115 120 125

Ser His Gln Arg Met Lys Lys Leu Phe Trp Asp Asp Val Pro Asn Pro
130 135 140

Lys Asn Cys Ser Trp Ala Gln Gly Leu Asn Phe Gln Lys Asp Ile Ser

145 150 155 160

Leu His Glu Val Phe Ile Phe Arg
165

<210> 104

<211> 142

<212> PRT

<213> Mus musculus

<400> 104

Pro Leu Thr Lys Asn Asp Ser Leu Cys Ser Val Arg Arg Tyr Val Val
1 5 10 15

Lys His Arg Thr Ala His Asn Gly Thr Trp Ser Glu Asp Val Gly Asn
20 25 30

Arg Thr Asn Leu Thr Phe Leu Trp Thr Glu Pro Ala His Thr Val Thr
35 40 45

71 Val Leu Ala Val Asn Ser Leu Gly Ala Ser Leu Val Asn Phe Asn Leu
50 55 60

Thr Phe Ser Trp Pro Met Ser Lys Val Ser Ala Val Glu Ser Leu Ser
65 70 75 80

Ala Tyr Pro Leu Ser Ser Ser Cys Val Ile Leu Ser Trp Thr Leu Ser
85 90 95

Pro Asp Asp Tyr Ser Leu Leu Tyr Leu Val Ile Glu Trp Lys Ile Leu
100 105 110

Asn Glu Asp Asp Gly Met Lys Trp Leu Arg Ile Pro Ser Asn Val Lys
115 120 125

Lys Phe Tyr Ile His Gly Met Cys Thr Val Leu Phe Met Asp
130 135 140

<210> 105

<211> 142

<212> PRT

<213> Mus musculus

<400> 105

```
Pro Leu Thr Lys Asn Asp Ser Leu Cys Ser Val Arg Arg Tyr Val Val
1               5                  10                  15

Lys His Arg Thr Ala His Asn Gly Thr Trp Ser Glu Asp Val Gly Asn
            20                  25                  30

Arg Thr Asn Leu Thr Phe Leu Trp Thr Glu Pro Ala His Thr Val Thr
        35                  40                  45

Val Leu Ala Val Asn Ser Leu Gly Ala Ser Leu Val Asn Phe Asn Leu
    50                  55                  60

Thr Phe Ser Trp Pro Met Ser Lys Val Ser Ala Val Glu Ser Leu Ser
65                  70                  75                  80

Ala Tyr Pro Leu Ser Ser Ser Cys Val Ile Leu Ser Trp Thr Leu Ser
                85                  90                  95

Pro Asp Asp Tyr Ser Leu Leu Tyr Leu Val Ile Glu Trp Lys Ile Leu
            100                 105                 110

Asn Glu Asp Asp Gly Met Lys Trp Leu Arg Ile Pro Ser Asn Val Lys
        115                 120                 125

Lys Phe Tyr Ile His Gly Met Cys Thr Val Leu Phe Met Asp
    130                 135                 140
```

<210> 106

<211> 142

<212> PRT

<213> Mus musculus

<400> 106

```
Pro Leu Thr Lys Asn Asp Ser Leu Cys Ser Val Arg Arg Tyr Val Val
1               5                  10                  15

Lys His Arg Thr Ala His Asn Gly Thr Trp Ser Glu Asp Val Gly Asn
            20                  25                  30
```

Arg Thr Asn Leu Thr Phe Leu Trp Thr Glu Pro Ala His Thr Val Thr
35 40 45

Val Leu Ala Val Asn Ser Leu Gly Ala Ser Leu Val Asn Phe Asn Leu
50 55 60

Thr Phe Ser Trp Pro Met Ser Lys Val Ser Ala Val Glu Ser Leu Ser
65 70 75 80

Ala Tyr Pro Leu Ser Ser Ser Cys Val Ile Leu Ser Trp Thr Leu Ser
85 90 95

Pro Asp Asp Tyr Ser Leu Leu Tyr Leu Val Ile Glu Trp Lys Ile Leu
100 105 110

Asn Glu Asp Asp Gly Met Lys Trp Leu Arg Ile Pro Ser Asn Val Lys
115 120 125

Lys Phe Tyr Ile His Gly Met Cys Thr Val Leu Phe Met Asp
130 135 140

<210> 107

<211> 142

71 <212> PRT

<213> Mus musculus

<400> 107

Pro Leu Thr Lys Asn Asp Ser Leu Cys Ser Val Arg Arg Tyr Val Val
1 5 10 15

Lys His Arg Thr Ala His Asn Gly Thr Trp Ser Glu Asp Val Gly Asn
20 25 30

Arg Thr Asn Leu Thr Phe Leu Trp Thr Glu Pro Ala His Thr Val Thr
35 40 45

Val Leu Ala Val Asn Ser Leu Gly Ala Ser Leu Val Asn Phe Asn Leu
50 55 60

Thr Phe Ser Trp Pro Met Ser Lys Val Ser Ala Val Glu Ser Leu Ser
65 70 75 80

Ala Tyr Pro Leu Ser Ser Ser Cys Val Ile Leu Ser Trp Thr Leu Ser
85 90 95

Pro Asp Asp Tyr Ser Leu Leu Tyr Leu Val Ile Glu Trp Lys Ile Leu
100 105 110

Asn Glu Asp Asp Gly Met Lys Trp Leu Arg Ile Pro Ser Asn Val Lys
115 120 125

Lys Phe Tyr Ile His Gly Met Cys Thr Val Leu Phe Met Asp
130 135 140

<210> 108

<211> 73

<212> PRT

<213> Mus musculus

<400> 108

Met Ser Lys Val Ser Ala Val Glu Ser Leu Ser Ala Tyr Pro Leu Ser
1 5 10 15

71

Ser Ser Cys Val Ile Leu Ser Trp Thr Leu Ser Pro Asp Asp Tyr Ser
20 25 30

Leu Leu Tyr Leu Val Ile Glu Trp Lys Ile Leu Asn Glu Asp Asp Gly
35 40 45

Met Lys Trp Leu Arg Ile Pro Ser Asn Val Lys Lys Phe Tyr Ile His
50 55 60

Gly Met Cys Thr Val Leu Phe Met Asp
65 70

<210> 109

<211> 889

<212> PRT

<213> Mus musculus

<400> 109

Met Met Cys Gln Lys Phe Tyr Val Val Leu Leu His Trp Glu Phe Leu

```
1               5                   10                  15

Tyr Val Ile Ala Ala Leu Asn Leu Ala Tyr Pro Ile Ser Pro Trp Lys
            20                  25                  30

Phe Lys Leu Phe Cys Gly Pro Pro Asn Thr Thr Asp Asp Ser Phe Leu
        35                  40                  45

Ser Pro Ala Gly Ala Pro Asn Asn Ala Ser Ala Leu Lys Gly Ala Ser
    50                  55                  60

Glu Ala Ile Val Glu Ala Lys Phe Asn Ser Ser Gly Ile Tyr Val Pro
65                  70                  75                  80

Glu Leu Ser Lys Thr Val Phe His Cys Cys Phe Gly Asn Glu Gln Gly
                85                  90                  95

Gln Asn Cys Ser Ala Leu Thr Asp Asn Thr Glu Gly Lys Thr Leu Ala
            100                 105                 110

Ser Val Val Lys Ala Ser Val Phe Arg Gln Leu Gly Val Asn Trp Asp
        115                 120                 125

Ile Glu Cys Trp Met Lys Gly Asp Leu Thr Leu Phe Ile Cys His Met
    130                 135                 140

Glu Pro Leu Pro Lys Asn Pro Phe Lys Asn Tyr Asp Ser Lys Val His
145                 150                 155                 160

Leu Leu Tyr Asp Leu Pro Glu Val Ile Asp Asp Ser Pro Leu Pro Pro
                165                 170                 175

Leu Lys Asp Ser Phe Gln Thr Val Gln Cys Asn Cys Ser Leu Arg Gly
            180                 185                 190

Cys Glu Cys His Val Pro Val Pro Arg Ala Lys Leu Asn Tyr Ala Leu
        195                 200                 205

Leu Met Tyr Leu Glu Ile Thr Ser Ala Gly Val Ser Phe Gln Ser Pro
    210                 215                 220

Leu Met Ser Leu Gln Pro Met Leu Val Val Lys Pro Asp Pro Pro Leu
225                 230                 235                 240

Gly Leu His Met Glu Val Thr Asp Asp Gly Asn Leu Lys Ile Ser Trp
                245                 250                 255
```

```
Asp Ser Gln Thr Met Ala Pro Phe Pro Leu Gln Tyr Gln Val Lys Tyr
            260                 265                 270

Leu Glu Asn Ser Thr Ile Val Arg Glu Ala Ala Glu Ile Val Ser Ala
        275                 280                 285

Thr Ser Leu Leu Val Asp Ser Val Leu Pro Gly Ser Ser Tyr Glu Val
    290                 295                 300

Gln Val Arg Ser Lys Arg Leu Asp Gly Ser Gly Val Trp Ser Asp Trp
305                 310                 315                 320

Ser Ser Pro Gln Val Phe Thr Thr Gln Asp Val Val Tyr Phe Pro Pro
                325                 330                 335

Lys Ile Leu Thr Ser Val Gly Ser Asn Ala Ser Phe His Cys Ile Tyr
            340                 345                 350

Lys Asn Glu Asn Gln Ile Ile Ser Ser Lys Gln Ile Val Trp Trp Arg
        355                 360                 365

Asn Leu Ala Glu Lys Ile Pro Glu Ile Gln Tyr Ser Ile Val Ser Asp
    370                 375                 380

Arg Val Ser Lys Val Thr Phe Ser Asn Leu Lys Ala Thr Arg Pro Arg
385                 390                 395                 400

Gly Lys Phe Thr Tyr Asp Ala Val Tyr Cys Cys Asn Glu Gln Ala Cys
                405                 410                 415

His His Arg Tyr Ala Glu Leu Tyr Val Ile Asp Val Asn Ile Asn Ile
            420                 425                 430

Ser Cys Glu Thr Asp Gly Tyr Leu Thr Lys Met Thr Cys Arg Trp Ser
        435                 440                 445

Pro Ser Thr Ile Gln Ser Leu Val Gly Ser Thr Val Gln Leu Arg Tyr
    450                 455                 460

His Arg Arg Ser Leu Tyr Cys Pro Asp Ser Pro Ser Ile His Pro Thr
465                 470                 475                 480

Ser Glu Pro Lys Asn Cys Val Leu Gln Arg Asp Gly Phe Tyr Glu Cys
                485                 490                 495
```

71

Val Phe Gln Pro Ile Phe Leu Leu Ser Gly Tyr Thr Met Trp Ile Arg
500 505 510

Ile Asn His Ser Leu Gly Ser Leu Asp Ser Pro Pro Thr Cys Val Leu
515 520 525

Pro Asp Ser Val Val Lys Pro Leu Pro Pro Ser Asn Val Lys Ala Glu
530 535 540

Ile Thr Val Asn Thr Gly Leu Leu Lys Val Ser Trp Glu Lys Pro Val
545 550 555 560

Phe Pro Glu Asn Asn Leu Gln Phe Gln Ile Arg Tyr Gly Leu Ser Gly
565 570 575

Lys Glu Ile Gln Trp Lys Thr His Glu Val Phe Asp Ala Lys Ser Lys
580 585 590

Ser Ala Ser Leu Leu Val Ser Asp Leu Cys Ala Val Tyr Val Val Gln
595 600 605

Val Arg Cys Arg Arg Leu Asp Gly Leu Gly Tyr Trp Ser Asn Trp Ser
610 615 620

71

Ser Pro Ala Tyr Thr Leu Val Met Asp Val Lys Val Pro Met Arg Gly
625 630 635 640

Pro Glu Phe Trp Arg Lys Met Asp Gly Asp Val Thr Lys Lys Glu Arg
645 650 655

Asn Val Thr Leu Leu Trp Lys Pro Leu Thr Lys Asn Asp Ser Leu Cys
660 665 670

Ser Val Arg Arg Tyr Val Val Lys His Arg Thr Ala His Asn Gly Thr
675 680 685

Trp Ser Glu Asp Val Gly Asn Arg Thr Asn Leu Thr Phe Leu Trp Thr
690 695 700

Glu Pro Ala His Thr Val Thr Val Leu Ala Val Asn Ser Leu Gly Ala
705 710 715 720

Ser Leu Val Asn Phe Asn Leu Thr Phe Ser Trp Pro Met Ser Lys Val
725 730 735

Ser Ala Val Glu Ser Leu Ser Ala Tyr Pro Leu Ser Ser Ser Cys Val
740 745 750

Ile Leu Ser Trp Thr Leu Ser Pro Asp Asp Tyr Ser Leu Leu Tyr Leu
755 760 765

Val Ile Glu Trp Lys Ile Leu Asn Glu Asp Asp Gly Met Lys Trp Leu
770 775 780

Arg Ile Pro Ser Asn Val Lys Lys Phe Tyr Ile His Asp Asn Phe Ile
785 790 795 800

Pro Ile Glu Lys Tyr Gln Phe Ser Leu Tyr Pro Val Phe Met Glu Gly
805 810 815

Val Gly Lys Pro Lys Ile Ile Asn Gly Phe Thr Lys Asp Ala Ile Asp
820 825 830

Lys Gln Gln Asn Asp Ala Gly Leu Tyr Val Ile Val Pro Ile Ile Ile
835 840 845

Ser Ser Cys Val Leu Leu Leu Gly Thr Leu Leu Ile Ser His Gln Arg
850 855 860

71

Met Lys Lys Leu Phe Trp Asp Asp Val Pro Asn Pro Lys Asn Cys Ser
865 870 875 880

Trp Ala Gln Gly Leu Asn Phe Gln Lys
885

<210> 110

<211> 867

<212> PRT

<213> Mus musculus

<400> 110

Asn Leu Ala Tyr Pro Ile Ser Pro Trp Lys Phe Lys Leu Phe Cys Gly
1 5 10 15

Pro Pro Asn Thr Thr Asp Asp Ser Phe Leu Ser Pro Ala Gly Ala Pro
20 25 30

Asn Asn Ala Ser Ala Leu Lys Gly Ala Ser Glu Ala Ile Val Glu Ala

```
        35                  40                  45

Lys Phe Asn Ser Ser Gly Ile Tyr Val Pro Glu Leu Ser Lys Thr Val
    50                  55                  60

Phe His Cys Cys Phe Gly Asn Glu Gln Gly Gln Asn Cys Ser Ala Leu
65                  70                  75                  80

Thr Asp Asn Thr Glu Gly Lys Thr Leu Ala Ser Val Val Lys Ala Ser
                85                  90                  95

Val Phe Arg Gln Leu Gly Val Asn Trp Asp Ile Glu Cys Trp Met Lys
            100                 105                 110

Gly Asp Leu Thr Leu Phe Ile Cys His Met Glu Pro Leu Pro Lys Asn
        115                 120                 125

Pro Phe Lys Asn Tyr Asp Ser Lys Val His Leu Leu Tyr Asp Leu Pro
    130                 135                 140

Glu Val Ile Asp Asp Ser Pro Leu Pro Pro Leu Lys Asp Ser Phe Gln
145                 150                 155                 160

Thr Val Gln Cys Asn Cys Ser Leu Arg Gly Cys Glu Cys His Val Pro
                165                 170                 175

Val Pro Arg Ala Lys Leu Asn Tyr Ala Leu Leu Met Tyr Leu Glu Ile
            180                 185                 190

Thr Ser Ala Gly Val Ser Phe Gln Ser Pro Leu Met Ser Leu Gln Pro
        195                 200                 205

Met Leu Val Val Lys Pro Asp Pro Pro Leu Gly Leu His Met Glu Val
    210                 215                 220

Thr Asp Asp Gly Asn Leu Lys Ile Ser Trp Asp Ser Gln Thr Met Ala
225                 230                 235                 240

Pro Phe Pro Leu Gln Tyr Gln Val Lys Tyr Leu Glu Asn Ser Thr Ile
                245                 250                 255

Val Arg Glu Ala Ala Glu Ile Val Ser Ala Thr Ser Leu Leu Val Asp
            260                 265                 270

Ser Val Leu Pro Gly Ser Ser Tyr Glu Val Gln Val Arg Ser Lys Arg
        275                 280                 285
```

91

```
Leu Asp Gly Ser Gly Val Trp Ser Asp Trp Ser Ser Pro Gln Val Phe
    290                 295                 300

Thr Thr Gln Asp Val Val Tyr Phe Pro Pro Lys Ile Leu Thr Ser Val
305                 310                 315                 320

Gly Ser Asn Ala Ser Phe His Cys Ile Tyr Lys Asn Glu Asn Gln Ile
                325                 330                 335

Ile Ser Ser Lys Gln Ile Val Trp Trp Arg Asn Leu Ala Glu Lys Ile
            340                 345                 350

Pro Glu Ile Gln Tyr Ser Ile Val Ser Asp Arg Val Ser Lys Val Thr
        355                 360                 365

Phe Ser Asn Leu Lys Ala Thr Arg Pro Arg Gly Lys Phe Thr Tyr Asp
    370                 375                 380

Ala Val Tyr Cys Cys Asn Glu Gln Ala Cys His His Arg Tyr Ala Glu
385                 390                 395                 400

Leu Tyr Val Ile Asp Val Asn Ile Asn Ile Ser Cys Glu Thr Asp Gly
                405                 410                 415

Tyr Leu Thr Lys Met Thr Cys Arg Trp Ser Pro Ser Thr Ile Gln Ser
            420                 425                 430

Leu Val Gly Ser Thr Val Gln Leu Arg Tyr His Arg Arg Ser Leu Tyr
        435                 440                 445

Cys Pro Asp Ser Pro Ser Ile His Pro Thr Ser Glu Pro Lys Asn Cys
    450                 455                 460

Val Leu Gln Arg Asp Gly Phe Tyr Glu Cys Val Phe Gln Pro Ile Phe
465                 470                 475                 480

Leu Leu Ser Gly Tyr Thr Met Trp Ile Arg Ile Asn His Ser Leu Gly
                485                 490                 495

Ser Leu Asp Ser Pro Pro Thr Cys Val Leu Pro Asp Ser Val Val Lys
            500                 505                 510

Pro Leu Pro Pro Ser Asn Val Lys Ala Glu Ile Thr Val Asn Thr Gly
        515                 520                 525
```

Leu Leu Lys Val Ser Trp Glu Lys Pro Val Phe Pro Glu Asn Asn Leu
530 535 540

Gln Phe Gln Ile Arg Tyr Gly Leu Ser Gly Lys Glu Ile Gln Trp Lys
545 550 555 560

Thr His Glu Val Phe Asp Ala Lys Ser Lys Ser Ala Ser Leu Leu Val
565 570 575

Ser Asp Leu Cys Ala Val Tyr Val Val Gln Val Arg Cys Arg Arg Leu
580 585 590

Asp Gly Leu Gly Tyr Trp Ser Asn Trp Ser Ser Pro Ala Tyr Thr Leu
595 600 605

Val Met Asp Val Lys Val Pro Met Arg Gly Pro Glu Phe Trp Arg Lys
610 615 620

Met Asp Gly Asp Val Thr Lys Lys Glu Arg Asn Val Thr Leu Leu Trp
625 630 635 640

Lys Pro Leu Thr Lys Asn Asp Ser Leu Cys Ser Val Arg Arg Tyr Val
645 650 655

71

Val Lys His Arg Thr Ala His Asn Gly Thr Trp Ser Glu Asp Val Gly
660 665 670

Asn Arg Thr Asn Leu Thr Phe Leu Trp Thr Glu Pro Ala His Thr Val
675 680 685

Thr Val Leu Ala Val Asn Ser Leu Gly Ala Ser Leu Val Asn Phe Asn
690 695 700

Leu Thr Phe Ser Trp Pro Met Ser Lys Val Ser Ala Val Glu Ser Leu
705 710 715 720

Ser Ala Tyr Pro Leu Ser Ser Ser Cys Val Ile Leu Ser Trp Thr Leu
725 730 735

Ser Pro Asp Asp Tyr Ser Leu Leu Tyr Leu Val Ile Glu Trp Lys Ile
740 745 750

Leu Asn Glu Asp Asp Gly Met Lys Trp Leu Arg Ile Pro Ser Asn Val
755 760 765

Lys Lys Phe Tyr Ile His Asp Asn Phe Ile Pro Ile Glu Lys Tyr Gln
770 775 780

Phe Ser Leu Tyr Pro Val Phe Met Glu Gly Val Gly Lys Pro Lys Ile
785 790 795 800

Ile Asn Gly Phe Thr Lys Asp Ala Ile Asp Lys Gln Gln Asn Asp Ala
805 810 815

Gly Leu Tyr Val Ile Val Pro Ile Ile Ile Ser Ser Cys Val Leu Leu
820 825 830

Leu Gly Thr Leu Leu Ile Ser His Gln Arg Met Lys Lys Leu Phe Trp
835 840 845

Asp Asp Val Pro Asn Pro Lys Asn Cys Ser Trp Ala Gln Gly Leu Asn
850 855 860

Phe Gln Lys
865

<210> 111

<211> 862

71 <212> PRT

<213> Mus musculus

<400> 111

Ile Ser Pro Trp Lys Phe Lys Leu Phe Cys Gly Pro Pro Asn Thr Thr
1 5 10 15

Asp Asp Ser Phe Leu Ser Pro Ala Gly Ala Pro Asn Asn Ala Ser Ala
20 25 30

Leu Lys Gly Ala Ser Glu Ala Ile Val Glu Ala Lys Phe Asn Ser Ser
35 40 45

Gly Ile Tyr Val Pro Glu Leu Ser Lys Thr Val Phe His Cys Cys Phe
50 55 60

Gly Asn Glu Gln Gly Gln Asn Cys Ser Ala Leu Thr Asp Asn Thr Glu
65 70 75 80

Gly Lys Thr Leu Ala Ser Val Val Lys Ala Ser Val Phe Arg Gln Leu

85 90 95

Gly Val Asn Trp Asp Ile Glu Cys Trp Met Lys Gly Asp Leu Thr Leu
100 105 110

Phe Ile Cys His Met Glu Pro Leu Pro Lys Asn Pro Phe Lys Asn Tyr
115 120 125

Asp Ser Lys Val His Leu Leu Tyr Asp Leu Pro Glu Val Ile Asp Asp
130 135 140

Ser Pro Leu Pro Pro Leu Lys Asp Ser Phe Gln Thr Val Gln Cys Asn
145 150 155 160

Cys Ser Leu Arg Gly Cys Glu Cys His Val Pro Val Pro Arg Ala Lys
165 170 175

Leu Asn Tyr Ala Leu Leu Met Tyr Leu Glu Ile Thr Ser Ala Gly Val
180 185 190

Ser Phe Gln Ser Pro Leu Met Ser Leu Gln Pro Met Leu Val Val Lys
195 200 205

Pro Asp Pro Pro Leu Gly Leu His Met Glu Val Thr Asp Asp Gly Asn
210 215 220

Leu Lys Ile Ser Trp Asp Ser Gln Thr Met Ala Pro Phe Pro Leu Gln
225 230 235 240

Tyr Gln Val Lys Tyr Leu Glu Asn Ser Thr Ile Val Arg Glu Ala Ala
245 250 255

Glu Ile Val Ser Ala Thr Ser Leu Leu Val Asp Ser Val Leu Pro Gly
260 265 270

Ser Ser Tyr Glu Val Gln Val Arg Ser Lys Arg Leu Asp Gly Ser Gly
275 280 285

Val Trp Ser Asp Trp Ser Ser Pro Gln Val Phe Thr Thr Gln Asp Val
290 295 300

Val Tyr Phe Pro Pro Lys Ile Leu Thr Ser Val Gly Ser Asn Ala Ser
305 310 315 320

Phe His Cys Ile Tyr Lys Asn Glu Asn Gln Ile Ile Ser Ser Lys Gln
325 330 335

Ile Val Trp Trp Arg Asn Leu Ala Glu Lys Ile Pro Glu Ile Gln Tyr
340 345 350

Ser Ile Val Ser Asp Arg Val Ser Lys Val Thr Phe Ser Asn Leu Lys
355 360 365

Ala Thr Arg Pro Arg Gly Lys Phe Thr Tyr Asp Ala Val Tyr Cys Cys
370 375 380

Asn Glu Gln Ala Cys His His Arg Tyr Ala Glu Leu Tyr Val Ile Asp
385 390 395 400

Val Asn Ile Asn Ile Ser Cys Glu Thr Asp Gly Tyr Leu Thr Lys Met
405 410 415

Thr Cys Arg Trp Ser Pro Ser Thr Ile Gln Ser Leu Val Gly Ser Thr
420 425 430

Val Gln Leu Arg Tyr His Arg Arg Ser Leu Tyr Cys Pro Asp Ser Pro
435 440 445

Ser Ile His Pro Thr Ser Glu Pro Lys Asn Cys Val Leu Gln Arg Asp
450 455 460

71

Gly Phe Tyr Glu Cys Val Phe Gln Pro Ile Phe Leu Leu Ser Gly Tyr
465 470 475 480

Thr Met Trp Ile Arg Ile Asn His Ser Leu Gly Ser Leu Asp Ser Pro
485 490 495

Pro Thr Cys Val Leu Pro Asp Ser Val Val Lys Pro Leu Pro Pro Ser
500 505 510

Asn Val Lys Ala Glu Ile Thr Val Asn Thr Gly Leu Leu Lys Val Ser
515 520 525

Trp Glu Lys Pro Val Phe Pro Glu Asn Asn Leu Gln Phe Gln Ile Arg
530 535 540

Tyr Gly Leu Ser Gly Lys Glu Ile Gln Trp Lys Thr His Glu Val Phe
545 550 555 560

Asp Ala Lys Ser Lys Ser Ala Ser Leu Leu Val Ser Asp Leu Cys Ala
565 570 575

Val Tyr Val Val Gln Val Arg Cys Arg Arg Leu Asp Gly Leu Gly Tyr
580 585 590

Trp Ser Asn Trp Ser Ser Pro Ala Tyr Thr Leu Val Met Asp Val Lys
595 600 605

Val Pro Met Arg Gly Pro Glu Phe Trp Arg Lys Met Asp Gly Asp Val
610 615 620

Thr Lys Lys Glu Arg Asn Val Thr Leu Leu Trp Lys Pro Leu Thr Lys
625 630 635 640

Asn Asp Ser Leu Cys Ser Val Arg Arg Tyr Val Val Lys His Arg Thr
645 650 655

Ala His Asn Gly Thr Trp Ser Glu Asp Val Gly Asn Arg Thr Asn Leu
660 665 670

Thr Phe Leu Trp Thr Glu Pro Ala His Thr Val Thr Val Leu Ala Val
675 680 685

Asn Ser Leu Gly Ala Ser Leu Val Asn Phe Asn Leu Thr Phe Ser Trp
690 695 700

71 Pro Met Ser Lys Val Ser Ala Val Glu Ser Leu Ser Ala Tyr Pro Leu
705 710 715 720

Ser Ser Ser Cys Val Ile Leu Ser Trp Thr Leu Ser Pro Asp Asp Tyr
725 730 735

Ser Leu Leu Tyr Leu Val Ile Glu Trp Lys Ile Leu Asn Glu Asp Asp
740 745 750

Gly Met Lys Trp Leu Arg Ile Pro Ser Asn Val Lys Lys Phe Tyr Ile
755 760 765

His Asp Asn Phe Ile Pro Ile Glu Lys Tyr Gln Phe Ser Leu Tyr Pro
770 775 780

Val Phe Met Glu Gly Val Gly Lys Pro Lys Ile Ile Asn Gly Phe Thr
785 790 795 800

Lys Asp Ala Ile Asp Lys Gln Gln Asn Asp Ala Gly Leu Tyr Val Ile
805 810 815

Val Pro Ile Ile Ile Ser Ser Cys Val Leu Leu Leu Gly Thr Leu Leu
820 825 830

Ile Ser His Gln Arg Met Lys Lys Leu Phe Trp Asp Asp Val Pro Asn
835 840 845

Pro Lys Asn Cys Ser Trp Ala Gln Gly Leu Asn Phe Gln Lys
850 855 860

<210> 112

<211> 757

<212> PRT

<213> Mus musculus

<400> 112

Met Lys Gly Asp Leu Thr Leu Phe Ile Cys His Met Glu Pro Leu Pro
1 5 10 15

Lys Asn Pro Phe Lys Asn Tyr Asp Ser Lys Val His Leu Leu Tyr Asp
20 25 30

71 Leu Pro Glu Val Ile Asp Asp Ser Pro Leu Pro Pro Leu Lys Asp Ser
35 40 45

Phe Gln Thr Val Gln Cys Asn Cys Ser Leu Arg Gly Cys Glu Cys His
50 55 60

Val Pro Val Pro Arg Ala Lys Leu Asn Tyr Ala Leu Leu Met Tyr Leu
65 70 75 80

Glu Ile Thr Ser Ala Gly Val Ser Phe Gln Ser Pro Leu Met Ser Leu
85 90 95

Gln Pro Met Leu Val Val Lys Pro Asp Pro Pro Leu Gly Leu His Met
100 105 110

Glu Val Thr Asp Asp Gly Asn Leu Lys Ile Ser Trp Asp Ser Gln Thr
115 120 125

Met Ala Pro Phe Pro Leu Gln Tyr Gln Val Lys Tyr Leu Glu Asn Ser
130 135 140

Thr Ile Val Arg Glu Ala Ala Glu Ile Val Ser Ala Thr Ser Leu Leu

145 150 155 160

Val Asp Ser Val Leu Pro Gly Ser Ser Tyr Glu Val Gln Val Arg Ser
165 170 175

Lys Arg Leu Asp Gly Ser Gly Val Trp Ser Asp Trp Ser Ser Pro Gln
180 185 190

Val Phe Thr Thr Gln Asp Val Val Tyr Phe Pro Pro Lys Ile Leu Thr
195 200 205

Ser Val Gly Ser Asn Ala Ser Phe His Cys Ile Tyr Lys Asn Glu Asn
210 215 220

Gln Ile Ile Ser Ser Lys Gln Ile Val Trp Trp Arg Asn Leu Ala Glu
225 230 235 240

Lys Ile Pro Glu Ile Gln Tyr Ser Ile Val Ser Asp Arg Val Ser Lys
245 250 255

Val Thr Phe Ser Asn Leu Lys Ala Thr Arg Pro Arg Gly Lys Phe Thr
260 265 270

Tyr Asp Ala Val Tyr Cys Cys Asn Glu Gln Ala Cys His His Arg Tyr
275 280 285

Ala Glu Leu Tyr Val Ile Asp Val Asn Ile Asn Ile Ser Cys Glu Thr
290 295 300

Asp Gly Tyr Leu Thr Lys Met Thr Cys Arg Trp Ser Pro Ser Thr Ile
305 310 315 320

Gln Ser Leu Val Gly Ser Thr Val Gln Leu Arg Tyr His Arg Arg Ser
325 330 335

Leu Tyr Cys Pro Asp Ser Pro Ser Ile His Pro Thr Ser Glu Pro Lys
340 345 350

Asn Cys Val Leu Gln Arg Asp Gly Phe Tyr Glu Cys Val Phe Gln Pro
355 360 365

Ile Phe Leu Leu Ser Gly Tyr Thr Met Trp Ile Arg Ile Asn His Ser
370 375 380

Leu Gly Ser Leu Asp Ser Pro Pro Thr Cys Val Leu Pro Asp Ser Val
385 390 395 400

Val Lys Pro Leu Pro Pro Ser Asn Val Lys Ala Glu Ile Thr Val Asn
405 410 415

Thr Gly Leu Leu Lys Val Ser Trp Glu Lys Pro Val Phe Pro Glu Asn
420 425 430

Asn Leu Gln Phe Gln Ile Arg Tyr Gly Leu Ser Gly Lys Glu Ile Gln
435 440 445

Trp Lys Thr His Glu Val Phe Asp Ala Lys Ser Lys Ser Ala Ser Leu
450 455 460

Leu Val Ser Asp Leu Cys Ala Val Tyr Val Val Gln Val Arg Cys Arg
465 470 475 480

Arg Leu Asp Gly Leu Gly Tyr Trp Ser Asn Trp Ser Ser Pro Ala Tyr
485 490 495

Thr Leu Val Met Asp Val Lys Val Pro Met Arg Gly Pro Glu Phe Trp
500 505 510

Arg Lys Met Asp Gly Asp Val Thr Lys Lys Glu Arg Asn Val Thr Leu
515 520 525

71

Leu Trp Lys Pro Leu Thr Lys Asn Asp Ser Leu Cys Ser Val Arg Arg
530 535 540

Tyr Val Val Lys His Arg Thr Ala His Asn Gly Thr Trp Ser Glu Asp
545 550 555 560

Val Gly Asn Arg Thr Asn Leu Thr Phe Leu Trp Thr Glu Pro Ala His
565 570 575

Thr Val Thr Val Leu Ala Val Asn Ser Leu Gly Ala Ser Leu Val Asn
580 585 590

Phe Asn Leu Thr Phe Ser Trp Pro Met Ser Lys Val Ser Ala Val Glu
595 600 605

Ser Leu Ser Ala Tyr Pro Leu Ser Ser Ser Cys Val Ile Leu Ser Trp
610 615 620

Thr Leu Ser Pro Asp Asp Tyr Ser Leu Leu Tyr Leu Val Ile Glu Trp
625 630 635 640

```
Lys Ile Leu Asn Glu Asp Asp Gly Met Lys Trp Leu Arg Ile Pro Ser
                645                 650                 655

Asn Val Lys Lys Phe Tyr Ile His Asp Asn Phe Ile Pro Ile Glu Lys
            660                 665                 670

Tyr Gln Phe Ser Leu Tyr Pro Val Phe Met Glu Gly Val Gly Lys Pro
        675                 680                 685

Lys Ile Ile Asn Gly Phe Thr Lys Asp Ala Ile Asp Lys Gln Gln Asn
    690                 695                 700

Asp Ala Gly Leu Tyr Val Ile Val Pro Ile Ile Ile Ser Ser Cys Val
705                 710                 715                 720

Leu Leu Leu Gly Thr Leu Leu Ile Ser His Gln Arg Met Lys Lys Leu
                725                 730                 735

Phe Trp Asp Asp Val Pro Asn Pro Lys Asn Cys Ser Trp Ala Gln Gly
            740                 745                 750

Leu Asn Phe Gln Lys
        755
```

71

<210> 113

<211> 157

<212> PRT

<213> Mus musculus

<400> 113

```
Met Ser Lys Val Ser Ala Val Glu Ser Leu Ser Ala Tyr Pro Leu Ser
1               5                   10                  15

Ser Ser Cys Val Ile Leu Ser Trp Thr Leu Ser Pro Asp Asp Tyr Ser
            20                  25                  30

Leu Leu Tyr Leu Val Ile Glu Trp Lys Ile Leu Asn Glu Asp Asp Gly
        35                  40                  45

Met Lys Trp Leu Arg Ile Pro Ser Asn Val Lys Lys Phe Tyr Ile His
    50                  55                  60
```

Asp Asn Phe Ile Pro Ile Glu Lys Tyr Gln Phe Ser Leu Tyr Pro Val
65 70 75 80

Phe Met Glu Gly Val Gly Lys Pro Lys Ile Ile Asn Gly Phe Thr Lys
85 90 95

Asp Ala Ile Asp Lys Gln Gln Asn Asp Ala Gly Leu Tyr Val Ile Val
100 105 110

Pro Ile Ile Ile Ser Ser Cys Val Leu Leu Leu Gly Thr Leu Leu Ile
115 120 125

Ser His Gln Arg Met Lys Lys Leu Phe Trp Asp Asp Val Pro Asn Pro
130 135 140

Lys Asn Cys Ser Trp Ala Gln Gly Leu Asn Phe Gln Lys
145 150 155

<210> 114

<211> 796

<212> PRT

<213> Mus musculus

71

<400> 114

Met Met Cys Gln Lys Phe Tyr Val Val Leu Leu His Trp Glu Phe Leu
1 5 10 15

Tyr Val Ile Ala Ala Leu Asn Leu Ala Tyr Pro Ile Ser Pro Trp Lys
20 25 30

Phe Lys Leu Phe Cys Gly Pro Pro Asn Thr Thr Asp Asp Ser Phe Leu
35 40 45

Ser Pro Ala Gly Ala Pro Asn Asn Ala Ser Ala Leu Lys Gly Ala Ser
50 55 60

Glu Ala Ile Val Glu Ala Lys Phe Asn Ser Ser Gly Ile Tyr Val Pro
65 70 75 80

Glu Leu Ser Lys Thr Val Phe His Cys Cys Phe Gly Asn Glu Gln Gly
85 90 95

Gln Asn Cys Ser Ala Leu Thr Asp Asn Thr Glu Gly Lys Thr Leu Ala

```
                100                 105                 110

Ser Val Val Lys Ala Ser Val Phe Arg Gln Leu Gly Val Asn Trp Asp
        115                 120                 125

Ile Glu Cys Trp Met Lys Gly Asp Leu Thr Leu Phe Ile Cys His Met
    130                 135                 140

Glu Pro Leu Pro Lys Asn Pro Phe Lys Asn Tyr Asp Ser Lys Val His
145                 150                 155                 160

Leu Leu Tyr Asp Leu Pro Glu Val Ile Asp Asp Ser Pro Leu Pro Pro
                165                 170                 175

Leu Lys Asp Ser Phe Gln Thr Val Gln Cys Asn Cys Ser Leu Arg Gly
            180                 185                 190

Cys Glu Cys His Val Pro Val Pro Arg Ala Lys Leu Asn Tyr Ala Leu
        195                 200                 205

Leu Met Tyr Leu Glu Ile Thr Ser Ala Gly Val Ser Phe Gln Ser Pro
    210                 215                 220

Leu Met Ser Leu Gln Pro Met Leu Val Val Lys Pro Asp Pro Pro Leu
225                 230                 235                 240

Gly Leu His Met Glu Val Thr Asp Asp Gly Asn Leu Lys Ile Ser Trp
                245                 250                 255

Asp Ser Gln Thr Met Ala Pro Phe Pro Leu Gln Tyr Gln Val Lys Tyr
            260                 265                 270

Leu Glu Asn Ser Thr Ile Val Arg Glu Ala Ala Glu Ile Val Ser Ala
        275                 280                 285

Thr Ser Leu Leu Val Asp Ser Val Leu Pro Gly Ser Ser Tyr Glu Val
    290                 295                 300

Gln Val Arg Ser Lys Arg Leu Asp Gly Ser Gly Val Trp Ser Asp Trp
305                 310                 315                 320

Ser Ser Pro Gln Val Phe Thr Thr Gln Asp Val Val Tyr Phe Pro Pro
                325                 330                 335

Lys Ile Leu Thr Ser Val Gly Ser Asn Ala Ser Phe His Cys Ile Tyr
            340                 345                 350
```

Lys Asn Glu Asn Gln Ile Ile Ser Ser Lys Gln Ile Val Trp Trp Arg
355 360 365

Asn Leu Ala Glu Lys Ile Pro Glu Ile Gln Tyr Ser Ile Val Ser Asp
370 375 380

Arg Val Ser Lys Val Thr Phe Ser Asn Leu Lys Ala Thr Arg Pro Arg
385 390 395 400

Gly Lys Phe Thr Tyr Asp Ala Val Tyr Cys Cys Asn Glu Gln Ala Cys
405 410 415

His His Arg Tyr Ala Glu Leu Tyr Val Ile Asp Val Asn Ile Asn Ile
420 425 430

Ser Cys Glu Thr Asp Gly Tyr Leu Thr Lys Met Thr Cys Arg Trp Ser
435 440 445

Pro Ser Thr Ile Gln Ser Leu Val Gly Ser Thr Val Gln Leu Arg Tyr
450 455 460

71

His Arg Arg Ser Leu Tyr Cys Pro Asp Ser Pro Ser Ile His Pro Thr
465 470 475 480

Ser Glu Pro Lys Asn Cys Val Leu Gln Arg Asp Gly Phe Tyr Glu Cys
485 490 495

Val Phe Gln Pro Ile Phe Leu Leu Ser Gly Tyr Thr Met Trp Ile Arg
500 505 510

Ile Asn His Ser Leu Gly Ser Leu Asp Ser Pro Pro Thr Cys Val Leu
515 520 525

Pro Asp Ser Val Val Lys Pro Leu Pro Pro Ser Asn Val Lys Ala Glu
530 535 540

Ile Thr Val Asn Thr Gly Leu Leu Lys Val Ser Trp Glu Lys Pro Val
545 550 555 560

Phe Pro Glu Asn Asn Leu Gln Phe Gln Ile Arg Tyr Gly Leu Ser Gly
565 570 575

Lys Glu Ile Gln Trp Lys Thr His Glu Val Phe Asp Ala Lys Ser Lys
580 585 590

Ser Ala Ser Leu Leu Val Ser Asp Leu Cys Ala Val Tyr Val Val Gln
595 600 605

Val Arg Cys Arg Arg Leu Asp Gly Leu Gly Tyr Trp Ser Asn Trp Ser
610 615 620

Ser Pro Ala Tyr Thr Leu Val Met Asp Val Lys Val Pro Met Arg Gly
625 630 635 640

Pro Glu Phe Trp Arg Lys Met Asp Gly Asp Val Thr Lys Lys Glu Arg
645 650 655

Asn Val Thr Leu Leu Trp Lys Pro Leu Thr Lys Asn Asp Ser Leu Cys
660 665 670

Ser Val Arg Arg Tyr Val Val Lys His Arg Thr Ala His Asn Gly Thr
675 680 685

Trp Ser Glu Asp Val Gly Asn Arg Thr Asn Leu Thr Phe Leu Trp Thr
690 695 700

Glu Pro Ala His Thr Val Thr Val Leu Ala Val Asn Ser Leu Gly Ala
705 710 715 720

71

Ser Leu Val Asn Phe Asn Leu Thr Phe Ser Trp Pro Met Ser Lys Val
725 730 735

Ser Ala Val Glu Ser Leu Ser Ala Tyr Pro Leu Ser Ser Ser Cys Val
740 745 750

Ile Leu Ser Trp Thr Leu Ser Pro Asp Asp Tyr Ser Leu Leu Tyr Leu
755 760 765

Val Ile Glu Trp Lys Ile Leu Asn Glu Asp Asp Gly Met Lys Trp Leu
770 775 780

Arg Ile Pro Ser Asn Val Lys Lys Phe Tyr Ile His
785 790 795

<210> 115

<211> 774

<212> PRT

<213> Mus musculus

<400> 115

```
Asn Leu Ala Tyr Pro Ile Ser Pro Trp Lys Phe Lys Leu Phe Cys Gly
1               5                  10                  15

Pro Pro Asn Thr Thr Asp Asp Ser Phe Leu Ser Pro Ala Gly Ala Pro
            20                  25                  30

Asn Asn Ala Ser Ala Leu Lys Gly Ala Ser Glu Ala Ile Val Glu Ala
        35                  40                  45

Lys Phe Asn Ser Ser Gly Ile Tyr Val Pro Glu Leu Ser Lys Thr Val
    50                  55                  60

Phe His Cys Cys Phe Gly Asn Glu Gln Gly Gln Asn Cys Ser Ala Leu
65                  70                  75                  80

Thr Asp Asn Thr Glu Gly Lys Thr Leu Ala Ser Val Val Lys Ala Ser
                85                  90                  95

Val Phe Arg Gln Leu Gly Val Asn Trp Asp Ile Glu Cys Trp Met Lys
            100                 105                 110

Gly Asp Leu Thr Leu Phe Ile Cys His Met Glu Pro Leu Pro Lys Asn
        115                 120                 125

Pro Phe Lys Asn Tyr Asp Ser Lys Val His Leu Leu Tyr Asp Leu Pro
    130                 135                 140

Glu Val Ile Asp Asp Ser Pro Leu Pro Pro Leu Lys Asp Ser Phe Gln
145                 150                 155                 160

Thr Val Gln Cys Asn Cys Ser Leu Arg Gly Cys Glu Cys His Val Pro
                165                 170                 175

Val Pro Arg Ala Lys Leu Asn Tyr Ala Leu Leu Met Tyr Leu Glu Ile
            180                 185                 190

Thr Ser Ala Gly Val Ser Phe Gln Ser Pro Leu Met Ser Leu Gln Pro
        195                 200                 205

Met Leu Val Val Lys Pro Asp Pro Pro Leu Gly Leu His Met Glu Val
    210                 215                 220

Thr Asp Asp Gly Asn Leu Lys Ile Ser Trp Asp Ser Gln Thr Met Ala
```

```
225                 230                 235                 240

Pro Phe Pro Leu Gln Tyr Gln Val Lys Tyr Leu Glu Asn Ser Thr Ile
                245                 250                 255

Val Arg Glu Ala Ala Glu Ile Val Ser Ala Thr Ser Leu Leu Val Asp
            260                 265                 270

Ser Val Leu Pro Gly Ser Ser Tyr Glu Val Gln Val Arg Ser Lys Arg
        275                 280                 285

Leu Asp Gly Ser Gly Val Trp Ser Asp Trp Ser Ser Pro Gln Val Phe
    290                 295                 300

Thr Thr Gln Asp Val Val Tyr Phe Pro Pro Lys Ile Leu Thr Ser Val
305                 310                 315                 320

Gly Ser Asn Ala Ser Phe His Cys Ile Tyr Lys Asn Glu Asn Gln Ile
                325                 330                 335

Ile Ser Ser Lys Gln Ile Val Trp Trp Arg Asn Leu Ala Glu Lys Ile
            340                 345                 350

Pro Glu Ile Gln Tyr Ser Ile Val Ser Asp Arg Val Ser Lys Val Thr
        355                 360                 365

Phe Ser Asn Leu Lys Ala Thr Arg Pro Arg Gly Lys Phe Thr Tyr Asp
    370                 375                 380

Ala Val Tyr Cys Cys Asn Glu Gln Ala Cys His His Arg Tyr Ala Glu
385                 390                 395                 400

Leu Tyr Val Ile Asp Val Asn Ile Asn Ile Ser Cys Glu Thr Asp Gly
                405                 410                 415

Tyr Leu Thr Lys Met Thr Cys Arg Trp Ser Pro Ser Thr Ile Gln Ser
            420                 425                 430

Leu Val Gly Ser Thr Val Gln Leu Arg Tyr His Arg Arg Ser Leu Tyr
        435                 440                 445

Cys Pro Asp Ser Pro Ser Ile His Pro Thr Ser Glu Pro Lys Asn Cys
    450                 455                 460

Val Leu Gln Arg Asp Gly Phe Tyr Glu Cys Val Phe Gln Pro Ile Phe
465                 470                 475                 480
```

```
Leu Leu Ser Gly Tyr Thr Met Trp Ile Arg Ile Asn His Ser Leu Gly
                485                 490                 495

Ser Leu Asp Ser Pro Pro Thr Cys Val Leu Pro Asp Ser Val Val Lys
            500                 505                 510

Pro Leu Pro Pro Ser Asn Val Lys Ala Glu Ile Thr Val Asn Thr Gly
        515                 520                 525

Leu Leu Lys Val Ser Trp Glu Lys Pro Val Phe Pro Glu Asn Asn Leu
    530                 535                 540

Gln Phe Gln Ile Arg Tyr Gly Leu Ser Gly Lys Glu Ile Gln Trp Lys
545                 550                 555                 560

Thr His Glu Val Phe Asp Ala Lys Ser Lys Ser Ala Ser Leu Leu Val
                565                 570                 575

Ser Asp Leu Cys Ala Val Tyr Val Val Gln Val Arg Cys Arg Arg Leu
            580                 585                 590

Asp Gly Leu Gly Tyr Trp Ser Asn Trp Ser Ser Pro Ala Tyr Thr Leu
        595                 600                 605

Val Met Asp Val Lys Val Pro Met Arg Gly Pro Glu Phe Trp Arg Lys
    610                 615                 620

Met Asp Gly Asp Val Thr Lys Lys Glu Arg Asn Val Thr Leu Leu Trp
625                 630                 635                 640

Lys Pro Leu Thr Lys Asn Asp Ser Leu Cys Ser Val Arg Arg Tyr Val
                645                 650                 655

Val Lys His Arg Thr Ala His Asn Gly Thr Trp Ser Glu Asp Val Gly
            660                 665                 670

Asn Arg Thr Asn Leu Thr Phe Leu Trp Thr Glu Pro Ala His Thr Val
        675                 680                 685

Thr Val Leu Ala Val Asn Ser Leu Gly Ala Ser Leu Val Asn Phe Asn
    690                 695                 700

Leu Thr Phe Ser Trp Pro Met Ser Lys Val Ser Ala Val Glu Ser Leu
705                 710                 715                 720
```

Ser Ala Tyr Pro Leu Ser Ser Ser Cys Val Ile Leu Ser Trp Thr Leu
725 730 735

Ser Pro Asp Asp Tyr Ser Leu Leu Tyr Leu Val Ile Glu Trp Lys Ile
740 745 750

Leu Asn Glu Asp Asp Gly Met Lys Trp Leu Arg Ile Pro Ser Asn Val
755 760 765

Lys Lys Phe Tyr Ile His
770

<210> 116

<211> 769

<212> PRT

<213> Mus musculus

<400> 116

Ile Ser Pro Trp Lys Phe Lys Leu Phe Cys Gly Pro Pro Asn Thr Thr
1 5 10 15

71

Asp Asp Ser Phe Leu Ser Pro Ala Gly Ala Pro Asn Asn Ala Ser Ala
20 25 30

Leu Lys Gly Ala Ser Glu Ala Ile Val Glu Ala Lys Phe Asn Ser Ser
35 40 45

Gly Ile Tyr Val Pro Glu Leu Ser Lys Thr Val Phe His Cys Cys Phe
50 55 60

Gly Asn Glu Gln Gly Gln Asn Cys Ser Ala Leu Thr Asp Asn Thr Glu
65 70 75 80

Gly Lys Thr Leu Ala Ser Val Val Lys Ala Ser Val Phe Arg Gln Leu
85 90 95

Gly Val Asn Trp Asp Ile Glu Cys Trp Met Lys Gly Asp Leu Thr Leu
100 105 110

Phe Ile Cys His Met Glu Pro Leu Pro Lys Asn Pro Phe Lys Asn Tyr
115 120 125

```
Asp Ser Lys Val His Leu Leu Tyr Asp Leu Pro Glu Val Ile Asp Asp
    130                 135                 140

Ser Pro Leu Pro Pro Leu Lys Asp Ser Phe Gln Thr Val Gln Cys Asn
145                 150                 155                 160

Cys Ser Leu Arg Gly Cys Glu Cys His Val Pro Val Pro Arg Ala Lys
                165                 170                 175

Leu Asn Tyr Ala Leu Leu Met Tyr Leu Glu Ile Thr Ser Ala Gly Val
            180                 185                 190

Ser Phe Gln Ser Pro Leu Met Ser Leu Gln Pro Met Leu Val Val Lys
        195                 200                 205

Pro Asp Pro Pro Leu Gly Leu His Met Glu Val Thr Asp Asp Gly Asn
    210                 215                 220

Leu Lys Ile Ser Trp Asp Ser Gln Thr Met Ala Pro Phe Pro Leu Gln
225                 230                 235                 240

Tyr Gln Val Lys Tyr Leu Glu Asn Ser Thr Ile Val Arg Glu Ala Ala
                245                 250                 255

Glu Ile Val Ser Ala Thr Ser Leu Leu Val Asp Ser Val Leu Pro Gly
            260                 265                 270

Ser Ser Tyr Glu Val Gln Val Arg Ser Lys Arg Leu Asp Gly Ser Gly
        275                 280                 285

Val Trp Ser Asp Trp Ser Ser Pro Gln Val Phe Thr Thr Gln Asp Val
    290                 295                 300

Val Tyr Phe Pro Pro Lys Ile Leu Thr Ser Val Gly Ser Asn Ala Ser
305                 310                 315                 320

Phe His Cys Ile Tyr Lys Asn Glu Asn Gln Ile Ile Ser Ser Lys Gln
                325                 330                 335

Ile Val Trp Trp Arg Asn Leu Ala Glu Lys Ile Pro Glu Ile Gln Tyr
            340                 345                 350

Ser Ile Val Ser Asp Arg Val Ser Lys Val Thr Phe Ser Asn Leu Lys
        355                 360                 365

Ala Thr Arg Pro Arg Gly Lys Phe Thr Tyr Asp Ala Val Tyr Cys Cys
```

370 375 380

Asn Glu Gln Ala Cys His His Arg Tyr Ala Glu Leu Tyr Val Ile Asp
385 390 395 400

Val Asn Ile Asn Ile Ser Cys Glu Thr Asp Gly Tyr Leu Thr Lys Met
405 410 415

Thr Cys Arg Trp Ser Pro Ser Thr Ile Gln Ser Leu Val Gly Ser Thr
420 425 430

Val Gln Leu Arg Tyr His Arg Arg Ser Leu Tyr Cys Pro Asp Ser Pro
435 440 445

Ser Ile His Pro Thr Ser Glu Pro Lys Asn Cys Val Leu Gln Arg Asp
450 455 460

Gly Phe Tyr Glu Cys Val Phe Gln Pro Ile Phe Leu Leu Ser Gly Tyr
465 470 475 480

Thr Met Trp Ile Arg Ile Asn His Ser Leu Gly Ser Leu Asp Ser Pro
485 490 495

Pro Thr Cys Val Leu Pro Asp Ser Val Val Lys Pro Leu Pro Pro Ser
500 505 510

71

Asn Val Lys Ala Glu Ile Thr Val Asn Thr Gly Leu Leu Lys Val Ser
515 520 525

Trp Glu Lys Pro Val Phe Pro Glu Asn Asn Leu Gln Phe Gln Ile Arg
530 535 540

Tyr Gly Leu Ser Gly Lys Glu Ile Gln Trp Lys Thr His Glu Val Phe
545 550 555 560

Asp Ala Lys Ser Lys Ser Ala Ser Leu Leu Val Ser Asp Leu Cys Ala
565 570 575

Val Tyr Val Val Gln Val Arg Cys Arg Arg Leu Asp Gly Leu Gly Tyr
580 585 590

Trp Ser Asn Trp Ser Ser Pro Ala Tyr Thr Leu Val Met Asp Val Lys
595 600 605

Val Pro Met Arg Gly Pro Glu Phe Trp Arg Lys Met Asp Gly Asp Val
610 615 620

Thr Lys Lys Glu Arg Asn Val Thr Leu Leu Trp Lys Pro Leu Thr Lys
625 630 635 640

Asn Asp Ser Leu Cys Ser Val Arg Arg Tyr Val Val Lys His Arg Thr
645 650 655

Ala His Asn Gly Thr Trp Ser Glu Asp Val Gly Asn Arg Thr Asn Leu
660 665 670

Thr Phe Leu Trp Thr Glu Pro Ala His Thr Val Thr Val Leu Ala Val
675 680 685

Asn Ser Leu Gly Ala Ser Leu Val Asn Phe Asn Leu Thr Phe Ser Trp
690 695 700

Pro Met Ser Lys Val Ser Ala Val Glu Ser Leu Ser Ala Tyr Pro Leu
705 710 715 720

Ser Ser Ser Cys Val Ile Leu Ser Trp Thr Leu Ser Pro Asp Asp Tyr
725 730 735

71

Ser Leu Leu Tyr Leu Val Ile Glu Trp Lys Ile Leu Asn Glu Asp Asp
740 745 750

Gly Met Lys Trp Leu Arg Ile Pro Ser Asn Val Lys Lys Phe Tyr Ile
755 760 765

His

<210> 117

<211> 771

<212> PRT

<213> Mus musculus

<400> 117

Asp Pro Ile Ser Pro Trp Lys Phe Lys Leu Phe Cys Gly Pro Pro Asn
1 5 10 15

Thr Thr Asp Asp Ser Phe Leu Ser Pro Ala Gly Ala Pro Asn Asn Ala
20 25 30

```
Ser Ala Leu Lys Gly Ala Ser Glu Ala Ile Val Glu Ala Lys Phe Asn
        35                  40                  45

Ser Ser Gly Ile Tyr Val Pro Glu Leu Ser Lys Thr Val Phe His Cys
    50                  55                  60

Cys Phe Gly Asn Glu Gln Gly Gln Asn Cys Ser Ala Leu Thr Asp Asn
65                  70                  75                  80

Thr Glu Gly Lys Thr Leu Ala Ser Val Val Lys Ala Ser Val Phe Arg
                85                  90                  95

Gln Leu Gly Val Asn Trp Asp Ile Glu Cys Trp Met Lys Gly Asp Leu
            100                 105                 110

Thr Leu Phe Ile Cys His Met Glu Pro Leu Pro Lys Asn Pro Phe Lys
        115                 120                 125

Asn Tyr Asp Ser Lys Val His Leu Leu Tyr Asp Leu Pro Glu Val Ile
    130                 135                 140

Asp Asp Ser Pro Leu Pro Pro Leu Lys Asp Ser Phe Gln Thr Val Gln
145                 150                 155                 160

Cys Asn Cys Ser Leu Arg Gly Cys Glu Cys His Val Pro Val Pro Arg
                165                 170                 175

Ala Lys Leu Asn Tyr Ala Leu Leu Met Tyr Leu Glu Ile Thr Ser Ala
            180                 185                 190

Gly Val Ser Phe Gln Ser Pro Leu Met Ser Leu Gln Pro Met Leu Val
        195                 200                 205

Val Lys Pro Asp Pro Pro Leu Gly Leu His Met Glu Val Thr Asp Asp
    210                 215                 220

Gly Asn Leu Lys Ile Ser Trp Asp Ser Gln Thr Met Ala Pro Phe Pro
225                 230                 235                 240

Leu Gln Tyr Gln Val Lys Tyr Leu Glu Asn Ser Thr Ile Val Arg Glu
                245                 250                 255

Ala Ala Glu Ile Val Ser Ala Thr Ser Leu Leu Val Asp Ser Val Leu
            260                 265                 270
```

```
Pro Gly Ser Ser Tyr Glu Val Gln Val Arg Ser Lys Arg Leu Asp Gly
        275                 280                 285

Ser Gly Val Trp Ser Asp Trp Ser Ser Pro Gln Val Phe Thr Thr Gln
    290                 295                 300

Asp Val Val Tyr Phe Pro Pro Lys Ile Leu Thr Ser Val Gly Ser Asn
305                 310                 315                 320

Ala Ser Phe His Cys Ile Tyr Lys Asn Glu Asn Gln Ile Ile Ser Ser
                325                 330                 335

Lys Gln Ile Val Trp Trp Arg Asn Leu Ala Glu Lys Ile Pro Glu Ile
            340                 345                 350

Gln Tyr Ser Ile Val Ser Asp Arg Val Ser Lys Val Thr Phe Ser Asn
        355                 360                 365

Leu Lys Ala Thr Arg Pro Arg Gly Lys Phe Thr Tyr Asp Ala Val Tyr
    370                 375                 380

Cys Cys Asn Glu Gln Ala Cys His His Arg Tyr Ala Glu Leu Tyr Val
385                 390                 395                 400

Ile Asp Val Asn Ile Asn Ile Ser Cys Glu Thr Asp Gly Tyr Leu Thr
                405                 410                 415

Lys Met Thr Cys Arg Trp Ser Pro Ser Thr Ile Gln Ser Leu Val Gly
            420                 425                 430

Ser Thr Val Gln Leu Arg Tyr His Arg Arg Ser Leu Tyr Cys Pro Asp
        435                 440                 445

Ser Pro Ser Ile His Pro Thr Ser Glu Pro Lys Asn Cys Val Leu Gln
    450                 455                 460

Arg Asp Gly Phe Tyr Glu Cys Val Phe Gln Pro Ile Phe Leu Leu Ser
465                 470                 475                 480

Gly Tyr Thr Met Trp Ile Arg Ile Asn His Ser Leu Gly Ser Leu Asp
                485                 490                 495

Ser Pro Pro Thr Cys Val Leu Pro Asp Ser Val Val Lys Pro Leu Pro
            500                 505                 510

Pro Ser Asn Val Lys Ala Glu Ile Thr Val Asn Thr Gly Leu Leu Lys
```

515 520 525

Val Ser Trp Glu Lys Pro Val Phe Pro Glu Asn Asn Leu Gln Phe Gln
530 535 540

Ile Arg Tyr Gly Leu Ser Gly Lys Glu Ile Gln Trp Lys Thr His Glu
545 550 555 560

Val Phe Asp Ala Lys Ser Lys Ser Ala Ser Leu Leu Val Ser Asp Leu
565 570 575

Cys Ala Val Tyr Val Val Gln Val Arg Cys Arg Arg Leu Asp Gly Leu
580 585 590

Gly Tyr Trp Ser Asn Trp Ser Ser Pro Ala Tyr Thr Leu Val Met Asp
595 600 605

Val Lys Val Pro Met Arg Gly Pro Glu Phe Trp Arg Lys Met Asp Gly
610 615 620

Asp Val Thr Lys Lys Glu Arg Asn Val Thr Leu Leu Trp Lys Pro Leu
625 630 635 640

Thr Lys Asn Asp Ser Leu Cys Ser Val Arg Arg Tyr Val Val Lys His
645 650 655

Arg Thr Ala His Asn Gly Thr Trp Ser Glu Asp Val Gly Asn Arg Thr
660 665 670

Asn Leu Thr Phe Leu Trp Thr Glu Pro Ala His Thr Val Thr Val Leu
675 680 685

Ala Val Asn Ser Leu Gly Ala Ser Leu Val Asn Phe Asn Leu Thr Phe
690 695 700

Ser Trp Pro Met Ser Lys Val Ser Ala Val Glu Ser Leu Ser Ala Tyr
705 710 715 720

Pro Leu Ser Ser Ser Cys Val Ile Leu Ser Trp Thr Leu Ser Pro Asp
725 730 735

Asp Tyr Ser Leu Leu Tyr Leu Val Ile Glu Trp Lys Ile Leu Asn Glu
740 745 750

Asp Asp Gly Met Lys Trp Leu Arg Ile Pro Ser Asn Val Lys Lys Phe
755 760 765

Tyr Ile His
770

<210> 118

<211> 684

<212> PRT

<213> Mus musculus

<400> 118

Ser Val Val Lys Ala Ser Val Phe Arg Gln Leu Gly Val Asn Trp Asp
1 5 10 15

Ile Glu Cys Trp Met Lys Gly Asp Leu Thr Leu Phe Ile Cys His Met
20 25 30

Glu Pro Leu Pro Lys Asn Pro Phe Lys Asn Tyr Asp Ser Lys Val His
35 40 45

71

Leu Leu Tyr Asp Leu Pro Glu Val Ile Asp Asp Ser Pro Leu Pro Pro
50 55 60

Leu Lys Asp Ser Phe Gln Thr Val Gln Cys Asn Cys Ser Leu Arg Gly
65 70 75 80

Cys Glu Cys His Val Pro Val Pro Arg Ala Lys Leu Asn Tyr Ala Leu
85 90 95

Leu Met Tyr Leu Glu Ile Thr Ser Ala Gly Val Ser Phe Gln Ser Pro
100 105 110

Leu Met Ser Leu Gln Pro Met Leu Val Val Lys Pro Asp Pro Pro Leu
115 120 125

Gly Leu His Met Glu Val Thr Asp Asp Gly Asn Leu Lys Ile Ser Trp
130 135 140

Asp Ser Gln Thr Met Ala Pro Phe Pro Leu Gln Tyr Gln Val Lys Tyr
145 150 155 160

Leu Glu Asn Ser Thr Ile Val Arg Glu Ala Ala Glu Ile Val Ser Ala
165 170 175

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Thr Ser Leu Leu Val Asp Ser Val Leu Pro Gly Ser Ser Tyr Glu Val
            180                 185                 190

Gln Val Arg Ser Lys Arg Leu Asp Gly Ser Gly Val Trp Ser Asp Trp
        195                 200                 205

Ser Ser Pro Gln Val Phe Thr Thr Gln Asp Val Val Tyr Phe Pro Pro
    210                 215                 220

Lys Ile Leu Thr Ser Val Gly Ser Asn Ala Ser Phe His Cys Ile Tyr
225                 230                 235                 240

Lys Asn Glu Asn Gln Ile Ile Ser Ser Lys Gln Ile Val Trp Trp Arg
                245                 250                 255

Asn Leu Ala Glu Lys Ile Pro Glu Ile Gln Tyr Ser Ile Val Ser Asp
            260                 265                 270

Arg Val Ser Lys Val Thr Phe Ser Asn Leu Lys Ala Thr Arg Pro Arg
        275                 280                 285

Gly Lys Phe Thr Tyr Asp Ala Val Tyr Cys Cys Asn Glu Gln Ala Cys
    290                 295                 300

His His Arg Tyr Ala Glu Leu Tyr Val Ile Asp Val Asn Ile Asn Ile
305                 310                 315                 320

Ser Cys Glu Thr Asp Gly Tyr Leu Thr Lys Met Thr Cys Arg Trp Ser
                325                 330                 335

Pro Ser Thr Ile Gln Ser Leu Val Gly Ser Thr Val Gln Leu Arg Tyr
            340                 345                 350

His Arg Arg Ser Leu Tyr Cys Pro Asp Ser Pro Ser Ile His Pro Thr
        355                 360                 365

Ser Glu Pro Lys Asn Cys Val Leu Gln Arg Asp Gly Phe Tyr Glu Cys
    370                 375                 380

Val Phe Gln Pro Ile Phe Leu Leu Ser Gly Tyr Thr Met Trp Ile Arg
385                 390                 395                 400

Ile Asn His Ser Leu Gly Ser Leu Asp Ser Pro Pro Thr Cys Val Leu
                405                 410                 415
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Pro Asp Ser Val Val Lys Pro Leu Pro Pro Ser Asn Val Lys Ala Glu
420 425 430

Ile Thr Val Asn Thr Gly Leu Leu Lys Val Ser Trp Glu Lys Pro Val
435 440 445

Phe Pro Glu Asn Asn Leu Gln Phe Gln Ile Arg Tyr Gly Leu Ser Gly
450 455 460

Lys Glu Ile Gln Trp Lys Thr His Glu Val Phe Asp Ala Lys Ser Lys
465 470 475 480

Ser Ala Ser Leu Leu Val Ser Asp Leu Cys Ala Val Tyr Val Val Gln
485 490 495

Val Arg Cys Arg Arg Leu Asp Gly Leu Gly Tyr Trp Ser Asn Trp Ser
500 505 510

Ser Pro Ala Tyr Thr Leu Val Met Asp Val Lys Val Pro Met Arg Gly
515 520 525

Pro Glu Phe Trp Arg Lys Met Asp Gly Asp Val Thr Lys Lys Glu Arg
530 535 540

71

Asn Val Thr Leu Leu Trp Lys Pro Leu Thr Lys Asn Asp Ser Leu Cys
545 550 555 560

Ser Val Arg Arg Tyr Val Val Lys His Arg Thr Ala His Asn Gly Thr
565 570 575

Trp Ser Glu Asp Val Gly Asn Arg Thr Asn Leu Thr Phe Leu Trp Thr
580 585 590

Glu Pro Ala His Thr Val Thr Val Leu Ala Val Asn Ser Leu Gly Ala
595 600 605

Ser Leu Val Asn Phe Asn Leu Thr Phe Ser Trp Pro Met Ser Lys Val
610 615 620

Ser Ala Val Glu Ser Leu Ser Ala Tyr Pro Leu Ser Ser Ser Cys Val
625 630 635 640

Ile Leu Ser Trp Thr Leu Ser Pro Asp Asp Tyr Ser Leu Leu Tyr Leu
645 650 655

Val Ile Glu Trp Lys Ile Leu Asn Glu Asp Asp Gly Met Lys Trp Leu

660 665 670

Arg Ile Pro Ser Asn Val Lys Lys Phe Tyr Ile His
675 680

<210> 119

<211> 64

<212> PRT

<213> Mus musculus

<400> 119

Met Ser Lys Val Ser Ala Val Glu Ser Leu Ser Ala Tyr Pro Leu Ser
1 5 10 15

Ser Ser Cys Val Ile Leu Ser Trp Thr Leu Ser Pro Asp Asp Tyr Ser
20 25 30

Leu Leu Tyr Leu Val Ile Glu Trp Lys Ile Leu Asn Glu Asp Asp Gly
35 40 45

71

Met Lys Trp Leu Arg Ile Pro Ser Asn Val Lys Lys Phe Tyr Ile His
50 55 60

<210> 120

<211> 9

<212> PRT

<213> Mus musculus

<400> 120

Gly Met Cys Thr Val Leu Phe Met Asp
1 5

<210> 121

<211> 227

<212> PRT

<213> Mus musculus

<400> 121

Asp Arg Trp Gly Ser Tyr Ala Glu Leu Tyr Val Ile Asp Val Asn Ile
1 5 10 15

Asn Ile Ser Cys Glu Thr Asp Gly Tyr Leu Thr Lys Met Thr Cys Arg
20 25 30

Trp Ser Pro Ser Thr Ile Gln Ser Leu Val Gly Ser Thr Val Gln Leu
35 40 45

Arg Tyr His Arg Arg Ser Leu Tyr Cys Pro Asp Ser Pro Ser Ile His
50 55 60

Pro Thr Ser Glu Pro Lys Asn Cys Val Leu Gln Arg Asp Gly Phe Tyr
65 70 75 80

Glu Cys Val Phe Gln Pro Ile Phe Leu Leu Ser Gly Tyr Thr Met Trp
85 90 95

Ile Arg Ile Asn His Ser Leu Gly Ser Leu Asp Ser Pro Pro Thr Cys
100 105 110

71 Val Leu Pro Asp Ser Val Val Lys Pro Leu Pro Pro Ser Asn Val Lys
115 120 125

Ala Glu Ile Thr Val Asn Thr Gly Leu Leu Lys Val Ser Trp Glu Lys
130 135 140

Pro Val Phe Pro Glu Asn Asn Leu Gln Phe Gln Ile Arg Tyr Gly Leu
145 150 155 160

Ser Gly Lys Glu Ile Gln Trp Lys Thr His Glu Val Phe Asp Ala Lys
165 170 175

Ser Lys Ser Ala Ser Leu Leu Val Ser Asp Leu Cys Ala Val Tyr Val
180 185 190

Val Gln Val Arg Cys Arg Arg Leu Asp Gly Leu Gly Tyr Trp Ser Asn
195 200 205

Trp Ser Ser Pro Ala Tyr Thr Leu Val Met Asp Val Lys Val Pro Met
210 215 220

Arg Gly Pro
225

<210> 122

<211> 227

<212> PRT

<213> Mus musculus

<400> 122

Asp Arg Trp Gly Ser Tyr Ala Glu Leu Tyr Val Ile Asp Val Asn Ile
1 5 10 15

Asn Ile Ser Cys Glu Thr Asp Gly Tyr Leu Thr Lys Met Thr Cys Arg
20 25 30

Trp Ser Pro Ser Thr Ile Gln Ser Leu Val Gly Ser Thr Val Gln Leu
35 40 45

Arg Tyr His Arg Arg Ser Leu Tyr Cys Pro Asp Ser Pro Ser Ile His
50 55 60

91

Pro Thr Ser Glu Pro Lys Asn Cys Val Leu Gln Arg Asp Gly Phe Tyr
65 70 75 80

Glu Cys Val Phe Gln Pro Ile Phe Leu Leu Ser Gly Tyr Thr Met Trp
85 90 95

Ile Arg Ile Asn His Ser Leu Gly Ser Leu Asp Ser Pro Pro Thr Cys
100 105 110

Val Leu Pro Asp Ser Val Val Lys Pro Leu Pro Pro Ser Asn Val Lys
115 120 125

Ala Glu Ile Thr Val Asn Thr Gly Leu Leu Lys Val Ser Trp Glu Lys
130 135 140

Pro Val Phe Pro Glu Asn Asn Leu Gln Phe Gln Ile Arg Tyr Gly Leu
145 150 155 160

Ser Gly Lys Glu Ile Gln Trp Lys Thr His Glu Val Phe Asp Ala Lys
165 170 175

Ser Lys Ser Ala Ser Leu Leu Val Ser Asp Leu Cys Ala Val Tyr Val
180 185 190

Val Gln Val Arg Cys Arg Arg Leu Asp Gly Leu Gly Tyr Trp Ser Asn
195 200 205

Trp Ser Ser Pro Ala Tyr Thr Leu Val Met Asp Val Lys Val Pro Met
210 215 220

Arg Gly Pro
225

<210> 123

<211> 529

<212> PRT

<213> Mus musculus

<400> 123

Asp Arg Trp Gly Ser Ser Val Phe Arg Gln Leu Gly Val Asn Trp Asp
1 5 10 15

Ile Glu Cys Trp Met Lys Gly Asp Leu Thr Leu Phe Ile Cys His Met
20 25 30

71

Glu Pro Leu Pro Lys Asn Pro Phe Lys Asn Tyr Asp Ser Lys Val His
35 40 45

Leu Leu Tyr Asp Leu Pro Glu Val Ile Asp Asp Ser Pro Leu Pro Pro
50 55 60

Leu Lys Asp Ser Phe Gln Thr Val Gln Cys Asn Cys Ser Leu Arg Gly
65 70 75 80

Cys Glu Cys His Val Pro Val Pro Arg Ala Lys Leu Asn Tyr Ala Leu
85 90 95

Leu Met Tyr Leu Glu Ile Thr Ser Ala Gly Val Ser Phe Gln Ser Pro
100 105 110

Leu Met Ser Leu Gln Pro Met Leu Val Val Lys Pro Asp Pro Pro Leu
115 120 125

Gly Leu His Met Glu Val Thr Asp Asp Gly Asn Leu Lys Ile Ser Trp
130 135 140

Asp Ser Gln Thr Met Ala Pro Phe Pro Leu Gln Tyr Gln Val Lys Tyr

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145                 150                 155                 160

Leu Glu Asn Ser Thr Ile Val Arg Glu Ala Ala Glu Ile Val Ser Ala
                165                 170                 175

Thr Ser Leu Leu Val Asp Ser Val Leu Pro Gly Ser Ser Tyr Glu Val
            180                 185                 190

Gln Val Arg Ser Lys Arg Leu Asp Gly Ser Gly Val Trp Ser Asp Trp
        195                 200                 205

Ser Ser Pro Gln Val Phe Thr Thr Gln Asp Val Val Tyr Phe Pro Pro
    210                 215                 220

Lys Ile Leu Thr Ser Val Gly Ser Asn Ala Ser Phe His Cys Ile Tyr
225                 230                 235                 240

Lys Asn Glu Asn Gln Ile Ile Ser Ser Lys Gln Ile Val Trp Trp Arg
                245                 250                 255

Asn Leu Ala Glu Lys Ile Pro Glu Ile Gln Tyr Ser Ile Val Ser Asp
            260                 265                 270

Arg Val Ser Lys Val Thr Phe Ser Asn Leu Lys Ala Thr Arg Pro Arg
        275                 280                 285

Gly Lys Phe Thr Tyr Asp Ala Val Tyr Cys Cys Asn Glu Gln Ala Cys
    290                 295                 300

His His Arg Tyr Ala Glu Leu Tyr Val Ile Asp Val Asn Ile Asn Ile
305                 310                 315                 320

Ser Cys Glu Thr Asp Gly Tyr Leu Thr Lys Met Thr Cys Arg Trp Ser
                325                 330                 335

Pro Ser Thr Ile Gln Ser Leu Val Gly Ser Thr Val Gln Leu Arg Tyr
            340                 345                 350

His Arg Arg Ser Leu Tyr Cys Pro Asp Ser Pro Ser Ile His Pro Thr
        355                 360                 365

Ser Glu Pro Lys Asn Cys Val Leu Gln Arg Asp Gly Phe Tyr Glu Cys
    370                 375                 380

Val Phe Gln Pro Ile Phe Leu Leu Ser Gly Tyr Thr Met Trp Ile Arg
385                 390                 395                 400
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71

Ile Asn His Ser Leu Gly Ser Leu Asp Ser Pro Pro Thr Cys Val Leu
405 410 415

Pro Asp Ser Val Val Lys Pro Leu Pro Pro Ser Asn Val Lys Ala Glu
420 425 430

Ile Thr Val Asn Thr Gly Leu Leu Lys Val Ser Trp Glu Lys Pro Val
435 440 445

Phe Pro Glu Asn Asn Leu Gln Phe Gln Ile Arg Tyr Gly Leu Ser Gly
450 455 460

Lys Glu Ile Gln Trp Lys Thr His Glu Val Phe Asp Ala Lys Ser Lys
465 470 475 480

Ser Ala Ser Leu Leu Val Ser Asp Leu Cys Ala Val Tyr Val Val Gln
485 490 495

Val Arg Cys Arg Arg Leu Asp Gly Leu Gly Tyr Trp Ser Asn Trp Ser
500 505 510

71

Ser Pro Ala Tyr Thr Leu Val Met Asp Val Lys Val Pro Met Arg Gly
515 520 525

Pro

<210> 124

<211> 529

<212> PRT

<213> Mus musculus

<400> 124

Asp Arg Trp Gly Ser Ser Val Phe Arg Gln Leu Gly Val Asn Trp Asp
1 5 10 15

Ile Glu Cys Trp Met Lys Gly Asp Leu Thr Leu Phe Ile Cys His Met
20 25 30

Glu Pro Leu Pro Lys Asn Pro Phe Lys Asn Tyr Asp Ser Lys Val His
35 40 45

Leu Leu Tyr Asp Leu Pro Glu Val Ile Asp Asp Ser Pro Leu Pro Pro
50 55 60

Leu Lys Asp Ser Phe Gln Thr Val Gln Cys Asn Cys Ser Leu Arg Gly
65 70 75 80

Cys Glu Cys His Val Pro Val Pro Arg Ala Lys Leu Asn Tyr Ala Leu
85 90 95

Leu Met Tyr Leu Glu Ile Thr Ser Ala Gly Val Ser Phe Gln Ser Pro
100 105 110

Leu Met Ser Leu Gln Pro Met Leu Val Val Lys Pro Asp Pro Pro Leu
115 120 125

Gly Leu His Met Glu Val Thr Asp Asp Gly Asn Leu Lys Ile Ser Trp
130 135 140

Asp Ser Gln Thr Met Ala Pro Phe Pro Leu Gln Tyr Gln Val Lys Tyr
145 150 155 160

71 Leu Glu Asn Ser Thr Ile Val Arg Glu Ala Ala Glu Ile Val Ser Ala
165 170 175

Thr Ser Leu Leu Val Asp Ser Val Leu Pro Gly Ser Ser Tyr Glu Val
180 185 190

Gln Val Arg Ser Lys Arg Leu Asp Gly Ser Gly Val Trp Ser Asp Trp
195 200 205

Ser Ser Pro Gln Val Phe Thr Thr Gln Asp Val Val Tyr Phe Pro Pro
210 215 220

Lys Ile Leu Thr Ser Val Gly Ser Asn Ala Ser Phe His Cys Ile Tyr
225 230 235 240

Lys Asn Glu Asn Gln Ile Ile Ser Ser Lys Gln Ile Val Trp Trp Arg
245 250 255

Asn Leu Ala Glu Lys Ile Pro Glu Ile Gln Tyr Ser Ile Val Ser Asp
260 265 270

Arg Val Ser Lys Val Thr Phe Ser Asn Leu Lys Ala Thr Arg Pro Arg
275 280 285

Gly Lys Phe Thr Tyr Asp Ala Val Tyr Cys Cys Asn Glu Gln Ala Cys
290 295 300

His His Arg Tyr Ala Glu Leu Tyr Val Ile Asp Val Asn Ile Asn Ile
305 310 315 320

Ser Cys Glu Thr Asp Gly Tyr Leu Thr Lys Met Thr Cys Arg Trp Ser
325 330 335

Pro Ser Thr Ile Gln Ser Leu Val Gly Ser Thr Val Gln Leu Arg Tyr
340 345 350

His Arg Arg Ser Leu Tyr Cys Pro Asp Ser Pro Ser Ile His Pro Thr
355 360 365

Ser Glu Pro Lys Asn Cys Val Leu Gln Arg Asp Gly Phe Tyr Glu Cys
370 375 380

Val Phe Gln Pro Ile Phe Leu Leu Ser Gly Tyr Thr Met Trp Ile Arg
385 390 395 400

Ile Asn His Ser Leu Gly Ser Leu Asp Ser Pro Pro Thr Cys Val Leu
405 410 415

Pro Asp Ser Val Val Lys Pro Leu Pro Pro Ser Asn Val Lys Ala Glu
420 425 430

Ile Thr Val Asn Thr Gly Leu Leu Lys Val Ser Trp Glu Lys Pro Val
435 440 445

Phe Pro Glu Asn Asn Leu Gln Phe Gln Ile Arg Tyr Gly Leu Ser Gly
450 455 460

Lys Glu Ile Gln Trp Lys Thr His Glu Val Phe Asp Ala Lys Ser Lys
465 470 475 480

Ser Ala Ser Leu Leu Val Ser Asp Leu Cys Ala Val Tyr Val Val Gln
485 490 495

Val Arg Cys Arg Arg Leu Asp Gly Leu Gly Tyr Trp Ser Asn Trp Ser
500 505 510

Ser Pro Ala Tyr Thr Leu Val Met Asp Val Lys Val Pro Met Arg Gly
515 520 525

Pro

<210> 125

<211> 214

<212> PRT

<213> Mus musculus

<400> 125

Asp Arg Trp Gly Ser Leu Gly Val Asn Trp Asp Ile Glu Cys Trp Met
1 5 10 15

Lys Gly Asp Leu Thr Leu Phe Ile Cys His Met Glu Pro Leu Pro Lys
20 25 30

Asn Pro Phe Lys Asn Tyr Asp Ser Lys Val His Leu Leu Tyr Asp Leu
35 40 45

Pro Glu Val Ile Asp Asp Ser Pro Leu Pro Pro Leu Lys Asp Ser Phe
50 55 60

71

Gln Thr Val Gln Cys Asn Cys Ser Leu Arg Gly Cys Glu Cys His Val
65 70 75 80

Pro Val Pro Arg Ala Lys Leu Asn Tyr Ala Leu Leu Met Tyr Leu Glu
85 90 95

Ile Thr Ser Ala Gly Val Ser Phe Gln Ser Pro Leu Met Ser Leu Gln
100 105 110

Pro Met Leu Val Val Lys Pro Asp Pro Pro Leu Gly Leu His Met Glu
115 120 125

Val Thr Asp Asp Gly Asn Leu Lys Ile Ser Trp Asp Ser Gln Thr Met
130 135 140

Ala Pro Phe Pro Leu Gln Tyr Gln Val Lys Tyr Leu Glu Asn Ser Thr
145 150 155 160

Ile Val Arg Glu Ala Ala Glu Ile Val Ser Ala Thr Ser Leu Leu Val
165 170 175

Asp Ser Val Leu Pro Gly Ser Ser Tyr Glu Val Gln Val Arg Ser Lys
180 185 190

Arg Leu Asp Gly Ser Gly Val Trp Ser Asp Trp Ser Ser Pro Gln Val
195 200 205

Phe Thr Thr Gln Asp Val
210

<210> 126

<211> 214

<212> PRT

<213> Mus musculus

<400> 126

Asp Arg Trp Gly Ser Leu Gly Val Asn Trp Asp Ile Glu Cys Trp Met
1 5 10 15

Lys Gly Asp Leu Thr Leu Phe Ile Cys His Met Glu Pro Leu Pro Lys
20 25 30

71

Asn Pro Phe Lys Asn Tyr Asp Ser Lys Val His Leu Leu Tyr Asp Leu
35 40 45

Pro Glu Val Ile Asp Asp Ser Pro Leu Pro Pro Leu Lys Asp Ser Phe
50 55 60

Gln Thr Val Gln Cys Asn Cys Ser Leu Arg Gly Cys Glu Cys His Val
65 70 75 80

Pro Val Pro Arg Ala Lys Leu Asn Tyr Ala Leu Leu Met Tyr Leu Glu
85 90 95

Ile Thr Ser Ala Gly Val Ser Phe Gln Ser Pro Leu Met Ser Leu Gln
100 105 110

Pro Met Leu Val Val Lys Pro Asp Pro Pro Leu Gly Leu His Met Glu
115 120 125

Val Thr Asp Asp Gly Asn Leu Lys Ile Ser Trp Asp Ser Gln Thr Met
130 135 140

Ala Pro Phe Pro Leu Gln Tyr Gln Val Lys Tyr Leu Glu Asn Ser Thr
145 150 155 160

Ile Val Arg Glu Ala Ala Glu Ile Val Ser Ala Thr Ser Leu Leu Val
165 170 175

Asp Ser Val Leu Pro Gly Ser Ser Tyr Glu Val Gln Val Arg Ser Lys
180 185 190

71

Arg Leu Asp Gly Ser Gly Val Trp Ser Asp Trp Ser Ser Pro Gln Val
195 200 205

Phe Thr Thr Gln Asp Val
210